701544952 010811AAS psHB041xE

AI998258

AV784632

CF808960 | BQ045892'

```
The sequences are based on single pass reads.

The sequences are based on single pass reads.

Infer Technologies (a division of Invitrogen) members carried out full-length librairies construction: Temple G.

Genosorope members carried out sequencing and annotation: Castelli Genosorope, members carried out sequencing and annotation: Castelli Schachter V., Weissenbach J., Salanoubat M., Cruaud C., Caboche M.

Annotation is based on the June 2003 version of the Arabidopsis Annotation is based on the June 2003 version of the Arabidopsis genome released by MIPS (Munich Information center for Protein Sequences). 5 prime and 3 prime are assembled with Phrap.

http://www.genoscope.cns.fr/externe/sequences/Banque_Projet_EF/Full
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Caselli, V., Aury, J.M., Jaillon, O., Wincker, P., Clepet, C., Menard, M., Cruaud, C., Quetier, F., Scarpelli, C., Schachter, V., Temple, G., Caboche, M., Weisenbach, J. and Salanoubat, M. Whole Genome Sequence Comparisons and 'Full-Length' cDNA Sequences: A Combined Approach to Evaluate and Improve Arabidopsis Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arabidopsis thaliana Full-length cDNA Complete sequence from clone GSLTSIL37ZE02 of Silique of strain col-0 of Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (18-NOV-2003) Genoscope - Centre National de Sequencage
BP 191 91006 EVRY cedex - FRANCE (E-mail : segref@genoscope.cns.fr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     http://www.genoscope.cns.fr/cgi-bin/ggb/ggb?source=Arabidopsis.
Location/Qualifiers

    1. .1602
/organism="Arabidopsis thaliana"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BX833171.1 GI:42457670
HTC; GSLT CDNA.
ArabidopsIs thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 'db_xref="taxon:3702"
                                    CN862200
CN864491
CN864491
CF808960
CN864491
CF808960
AVA64592
CKZ61683
AV74692
CKZ61683
AV7471389
CKZ61683
AV74889
CKZ61683
AV74889
                                                                                                                                                                                                                                                                                                                                 AI988515
BG882882
                                                                                                                                                                                                                                                                                                                                                                                              CV287071
AW686368
                                                                                                                                                                                                                                                                                                                                                                            BQ080012
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : www.genoscope.cns.fr)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="mRNA"
/strain="Col-0"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 1602)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 1602)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thale cress).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Annotation
Genoscope
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BX833171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Web
311.8
307.2
307.2
307.2
301.2
298.2
294.8
294.8
294.8
294.8
                                                                                                                                                                                                                                                 281.8
280.8
280.4
280.2
280.2
280.2
280.2
280.2
                                                                                                                                                                                                                               283.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 1
CNSOAOKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMMENT
  υ
                                                                                    U
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AV823628 AV823628
CB261053 15-E9570-
CC7215873 CAST0002
CO117860 GR EAD105
CC0095556 GR EA18E
CK1194799 UCRCSO5_0
CK119497 X9P11d11_CC096428 GR EA19K
Z37245 AT733988 St
AY105375 CGF100395
AY105375 CGF100395
AY105375 EST7746549
CK289327 EST7746549
CK289327 EST776549
CK289327 EST776549
CK289327 EST776549
CK289327 EST774684
CK284004 EST770082
CC073048 GR EA321
BUB36279 TO84G02 P
CK95453 010928ABD
CK913815 030108ABM
AJ805795 AJ805795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidops
AV823628
35-E9570-
CAST0002_
                                                                                                                                          4; Search time 4459 Seconds
(without alignments)
12395.003 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BX833171 Arabidops
BX829836 Arabidops
BX829783 Arabidops
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                        1 atgaacgagaaagccaacgt......gaatgttcacaaaacattga 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                        68479088
                       GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                               34239544 seqs, 19032134700 residues
                                                                                                                                                                                                                                                                                                                                                                                                                        lotal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                             September 27, 2005, 02:49:54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                        nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AY596550
CV197356
AY105375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CK283827
CK289726
CK264004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CN913815
CN913251
AJ805795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CO117860
CO095556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CK319497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C0096428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C0073048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BU836279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CN905453
                                                                                                                                                                                                                                                                                                                  IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                               seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  四
                                                                                                                                                                                                                               US-10-630-518-1
1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ouery
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EST: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1446.8
606.8
599.6
406.4
                                                                                                                                                                                                                                 Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            364.6
3357.2
357.2
347.2
343.8
343.8
338.4
328.6
328.6
328.6
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
328.8
                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB
Maximum DB
                                                                                                          OM nucleic
                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š.
```

HTC 06-FEB-2004

linear

mRNA

1602 bp

sf06d03.y EST480325

AI988515

NF040G09N

AW686368

ALIGNMENTS

san04f04

OOLAAL

CN865160

sag19h04

AV525150 A BQ588266 S BI471389 E

8 8

a

ઠે

ద

8

```
1080
                                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                                                                                 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Castelli, V., Aury, J.M., Jaillon, O., Wincker, P., Clepet, C., Menard, M., Cruaud, C., Quetier, F., Scarpelli, C., Schachter, V., Temple, G., Caboche, M., Weissenbach, J. and Salanoubat, M. Whole Genome Sequence Comparisons and 'Full-Length' cDNA Sequences: A Combined Approach to Evaluate and Improve Arabidopsis Genome
                                                                                                                                                                         1154
                                                                                                                                                                                                                                                                                                                                                        1274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACACCATCTTCACAATCAGGCAAAGACTTTGATTCTCTTCCTTGATGGAATGTATTC 1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CNSOA1A4 linear HTC 06-FEB-2004 Arabidopsis thaliana Full-length cDNA Complete sequence from clone SSIPFB3ZH12 of Flowers and buds of strain col-0 of Arabidopsis thaliana (thale cress).
                                                                                                                                                                                                                                                                                                                                                                                                                           1454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCTAATTTAACAACTCAACAAGGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT 1034
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT 1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BX829836
BX829836
BX829836
BX829836
BX829836
BX829836
BX829836
BX82040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (18-NOV-2003) Genoscope - Centre National de Sequencage : BP 191 91006 EVRY cedex - FRANCE (B-mail : seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr - The sequences are based on single pass reads.

Life Technologies (a division of Invitrogen) members carried out full-length librairies construction : Temple G. Genoscope members carried out sequencing and annotation : Castelli G., Aury J.M., Jaillon O., Wincker P., Menard M., Cruaud C., Schachter V., Weissenbach J., Salanoubat M.
                                                                                                                                                                                                                                             ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                           CAGCAGCAACCAAACCCCTTTACATGGCTGCAGCGAAAAGCTGCTGGAGGGCACTCCAAAAGGGGGTG
                                                                                                                                                                                                                     AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                                                                                                                                                                                                     GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCCAGAAACTT
                                         GAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                     CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                                                              GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                    ATGCAAAACATGAATATGAACGCAAACATGAACACGAGAGCCCGCACAACCGCAAAGAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (bases 1 to 1656)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genoscope.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Annotation
                                                                                        1035
                                                                                                                                    1021
                                                                                                                                                                              1095
                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                  1155
                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                            1215
                                                                                                                                                                                                                                                                                                                                                                                                        1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                  1275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1515
    975
                                              961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CNS0A1A4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                8 6
                                                                                                                             6 6 6
                                                                                                                                                                                                                                                        8 8 8
                                                                                                                                                                                                                                                                                                                                                                                      8 6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ģ g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
                                                                                                                                                                                                                                                                                                                                                                 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                914
                                                                                                                                                                                                                                                                                         134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAGA 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          854
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      974
                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGAGAGCAGTTCTCCTCCAGCTTCATCTCTCACTTTGAGGATTTGTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGGATTTGTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCGGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                           ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCTAATTTAACAACTCAACAACAACAACAAAGATGTGAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                               ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                       GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                           TGGGCTAGTGTTAATTTAGGTATCTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                     .
0
                                                                                                                                                         Length 1602;
                                                                                                                                                                                                     Indels
                                                                                                                                                           ë,
                                                                                                                                                                                                     ö
                                                                                                                                                           g
                                                                                                                                                    Query Match
100.0%; Score 1452;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 1452; Conservative 0; Mismatches
  /clone="GSLTSIL37ZB02"
/tissue type="Silique"
/plasmid="pcmVSPORT_6"
complement(1. .1602)
/gene="At5954310"
                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        615
                                                                                                                                                                                                                                                 н
                                                                                                                                                                                                                                                                                                                                                                                 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           915
                                                                                                                                                                                                                                                                                           75
                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          495
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   855
                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          901
                                                                     gene
```

g

ያ ያ

Š

g

ያ ያ

q

ઠે

ል ප ද

셤

δ

8 &

q

8 8 8

음 & `

δ

```
CTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTTAT
                                                                                                                                                                                                                                                                                                                                                                                   CTACCAGATCCCCGGAATGACTAACCCCGTAGGTGAGGTCAAGCTGATCTCCAGAAACTTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGTAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GACCCCAAACTCAACCGGTAAACCTCAGTCATCCGCAACCCAACAACAAGCACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GACTACAAATACCTCAGAGGAACTCCTGGCGATACTCCTGCCGATGATAACTCATGGG
                                                             TAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGA
                                                                                                                                                                                                                                                                                                                                                                                                                          GCAAAACATGAATGTGAACGCAAACATGAACACGAGACCCGCACAACGCGAAGAGAACAC
                                                                                                   TGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACACC
                                                                                                                     TAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGA
                                                                                                                                                                                                          GCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTGAA
                                                                                                                                                                                                                                                                                        gcadcaagcccrrracarddcrgcagcgaaagcrgcrgcagggacacrccaaacggcgrgaa
                                                                                                                                                                                                                                                                                                                  TCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAAACATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BX829783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1443
                                                                                                                                                                                                                                                                1023
                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                     1083
                                                                                                                                                                                                                                                                                                                                               1081
                                                                                                                                                                                                                                                                                                                                                                         1143
                                                                                                                                                                                                                                                                                                                                                                                                    1141
                                                                                                                                                                                                                                                                                                                                                                                                                             1203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1321
                          721
                                                                            781
                                                                                                                               841
                                                                                                                                                         903
                                                                                                                                                                                  901
                                                                                                                                                                                                           963
                                                                                                                                                                                                                                      961
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1201
                                                   783
                                                                                                      843
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
CNSOALAM
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             쉽
                                         8 6
                                                                                            ð
                                                                                                                        원
                                                                                                                                                        8 6
                                                                                                                                                                                                          à
                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                   qq
                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
URGV INRA: Clepet C., Caboche M.
Annotation is based on the June 2003 version of the Arabidopsis genome released by MIPS (Munich Information center for Protein Sequences). 5 prime and 3 prime are assembled with Phrap.

http://www.genoscope.cns.fr/externe/sequences/Banque_Projet_EF/Full_length
                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                           182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   782
                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                         GCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTTTGAGGAGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGAGTCTGCAGCTACTCCAGTAGAGAGAGAAACAAGCAGTAAATGTTGCACCAGCATC
                                                                                                                                                                                                                                                                                                                                                      GCTTCTTAAACATCCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACACATGGCTCCCCGAGCAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGCATTTATACAGTCAATGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCAAACTAIGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAGAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTTGAGGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANTANATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGATTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGATTC
                                                                                        http://www.genoscope.cns.fr/cgi-bin/ggb/ggb?source=Arabidopsis
                                                                                                                                                                                                                                                                                                                                GAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                           GGCTAGTGTTAATTTTAGGTATCTTTTATCTGCATGCAATGTTCTGGGATTTCACAGGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCTGTAAATTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACTACAAATACCTCAGAGGCAACTCCTGGGGATACTCCTGCCGATGATAACTCATGGGC
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                              Length 1656;
                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                   /organiam="Arabidopsis thaliana"
/mol_type="mtWh"
/strain="Col-0"
/db_xref="taxon:3102"
/clone="GSLTPB3ZH12"
/tissue_type="Flowers and buds"
/plsmid="pcWxSpRT" 6"
/complement(1. .1656)
/gene="At5g54310"
                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                               3;
                                                                                                                                                                                                                                                                               BB
                                                                                                                                                                                                                                                                              99.9%; Score 1450; D
100.0%; Pred. No. 0;
Live 0; Mismatches
                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                           Matches 1450; Conservative
                                                                                                                                                                                                                                                                                             Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    723
                                                                                                                                                                                                                                                                                                                                       m
                                                                                                                                                                                                                                                                                                                                                                                          63
                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         543
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303
                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                               gene
                                                                                                         FEATURES
```

g

셤

ઠે

g

g ઠે

8

요

ሯ

g

ሯ

g

ò

ò

셤

ઠે

음 강

셤

ò 요 δ g

8

1202 1200 1262 1260 1322 1320

1020 1082 1080 1142

1022

962 960

842 840 902 900 1380

1382

BX822983.1 GI:42458494

BX8229783.1 GI:42458494

HTC; GSLT CDNA.

Arabidopsis thaliana (thale cress)

Arabidopsis thaliana

Eukaryotes; Viridiplantes; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaces; Arabidopsis.

E (bases 1 to 1585)

S Castelli, V., Aury J.M., Jaillon, O., Wincker, P., Clepet, C., Menard, M., Cruaud, C., Quetter, F., Scarpelli, C., Schachter, V., Temple, G., Caboche, M., Weissenbach, J. and Salanoubat, M.

Whole Genome Sequence Comparisons and 'Full-Length' cDNA Sequences: A Combined Approach to Evaluate and Improve Arabidopsis Genome Annotation CNSOALAM 1585 bp mRNA linear HTC 06-FEB-2004 Arabidopsis thaliana Full-length cDNA Complete sequence from clone GSLTFB36ZH03 of Flowers and buds of strain col-0 of Arabidopsis thaliana (thale cress).

543 603 603 661 723 721	0.00   0.00	1023	1143   CTACCAGATICCCGGGAATGACTGACCGGTAGGTGGTCGTCGGTGTGTTTTTTTT	1323 GACCCAAACTCAACGGTAAACCTCAGTCATCACCAACCAA	RESULT 4  AV823628  LOCUS  LOCUS  AV823628  RAFLS Arabidopsis thaliana cDNA clone RAFL05-21-P04 5',  MRNA sequence.  ACCESSION  AV823628  VERSTON  AV823628  KEYWORDS  EST.
Unpublished  2 (bases 1 to 1585)  Genoscope.  Direct Submission  Submitted (18-NOV-2003) Genoscope - Centre National de Sequencage :  BP 191 91006 BVRY cedex - FRANCE (B-mail : seqref@genoscope.cns.fr  - Web : www.genoscope.cns.fr)  The sequences are based on single pass reads.  Life Technologies (a division of Invitrogen) members carried out full-length librairies construction : Temple G.  Genoscope members carried out sequencing and annotation : Castelli V., Aury J.W., Jaillon O., Wincker P., Menard M., Cruaud C., Schachter V., Weissenbach J., Salanoubat M.  MRGV INRA : Clepet C., Caboche M.  Annotation is based on the June 2003 version of the Arabidopsis genome released by MIPS (Munich Information center for Protein	Sequences). 5 prime and 3 prime are assembled with Purap.  http://www.genoscope.cns.fr/externe/sequences/Banque_Projet_EF/Full length  http://www.genoscope.cns.fr/cgi-bin/ggb/ggb?source=Arabidopsis.  Location/Qualifiers  l1585 /organism="Arabidopsis thaliana" /mol_type="mRNA" /strain="Col-0" /db xref="taxon.3702" /clone="GSLTFB36ZH03" /tissue type="Flowers and buds" /plasmid="pCMVSFORT 6" complement(11585) /qene="At5954310"	nilari Cons NACGAG	63 GCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGAAAACAAAAGGTCCAAGATG 122	CGGGGTACTATACAAGGTTCGCCCTCTGGACATGGCTCCCCGGGCGGG	361 ATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGGAACGGCGGAA 420 423 ATCTGTGGAGAAGAGGCCGGGATATGAGCATGGACTAGTAGTAGTAGTCGTAAATTT 482
JOURNAL REFERENCE AUTHORS TITLE JOURNAL COMMENT	FEATURES BOUI'CE GENE	ORIGIN  Query Match Best Local Sir Matches 1448;  Qy 3 GJ	8 8 8 8		8 5 8 5 8 3

```
CB261053.1
                                                                                                                                                                                                                                                                                                     CB261053
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         source
                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                   DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JOURNAL
MEDLINE
PUBMED
                                                                                                                                                                                                                RESULT 5
CB261053
                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
                                                                                                                                                                                                                                                                                                                                                         SOURCE
                       g
                                                              ઠે
                                                                                          a
                                                                                                                          ò
                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                     Email: mseki@rtc.riken.go.jp
An Arabidopsis full-length cDNA library was constructed essentially
as reported previously (Seki et al., 1998). This clone is in a
modified pBluescript vector as a SstI/XhoI insert. Please visit our
web site (http://www.gsc.riken.go.jp/e/plant/index_e.html) for
further details.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAATCTGTGGAGAGAAGTGGGCCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCCAAACTATGATAGAGTTGGAAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAAG 372
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana
Makaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots,
rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Seki,M., Narusaka,M., Ishida,J., Kamiya,A., Satou,M., Nakajima,M.,
Oono,Y., Sakurai,T., Carninci,P., Kawai,J., Itch,M., Ishii,Y.,
Arakawa,T., Shibata,K., Shinagawa,A., Muramatsu,M., Hayashizaki,Y.
and Shinozaki,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                         Large scale analysis of Arabidopsis full-length cDNA (2002b) Unpublished (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone lib="RAFL5"
/note="Site 1: Sat1; Site 2: Xho1; subjected to
dehydration-treated(1,2,5,10,24 hr)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41.8%; Score 606.8; DB 1; Length 624; 99.3%; Pred. No. 1.7e-166; ive 0; Mismatches 4; Indels 0
                                                                                                                                                                                                Contact: Motoaki Seki
Plant Functional Genomics Research Group
RIKEN Genomic Sciences Center
3-1-1 Koyadai, Tsukuba, Ibaraki 305-0074, Japan
Tel: 81-298-36-4359
Fax: 81-298-36-9060
                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /dev_stage="rosette plants"
/lab_host="SOLR"
Arabidopsis thaliana (thale cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="RAFL05-21-P04"
                                                                                                                                                                                                                                                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                (bases 1 to 624)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 99.3
Matches 608; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                1. .624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                 ORGANISM
                                                                                                                                                                 TITLE
JOURNAL
                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORIGIN
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
```

```
/close="Mut.polestorm"
/close="Mut.polestorm"
/dev_stage="whole plant,"
/dev_stage="adult plant, mixed stresses"
/lab_host="E. coli Xii-Blue MRF"
/clone lla-"MPRZ-D12"
/clone lla-"MPRZ-D15-012"
/note="Vector: pSPORTI; Site I: SalI; Site 2: NotI; cDNA
library from Arabidopsis thalians, accession Landsberg
erecta; six weeks old total plants grown under long-day
conditions in soil, whole adult plants were treated for 24
hours with different stresses, (1) at 4M-0 C in the dark,
(2), at 37 grad C in the dark, (3) lying in the lab after
removing from soil, (4) in the greenhouse after wounding
leaves with a foreceps, (5) in the lab watering with a 150
mM NaCl solution, (6) at 26 grad C in the light/UV; equal
quantities of stressed plant material were pooled; library
was made at the Max-Planck-Institute for Plant Breeding
Research, Cologne, Garmany; cloning sites SalI-NotI,
primer sites and orientation:
T7-SalI-CCACGCGTCG-Sprime-cDNA-polyA-CC-NotI-SP6; Note:
Sequencing granted in the context of the GABI Arabidopsis
Verbund I: Genetic Diversity, 'Establishment of
high-efficiency SNP-based mapping tools and development of
methods for genome-wide mutation detection' PI: Bernd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Schmid, K.J., Soerensen, T.R., Stracke, R., Torjek, O., Altmann, T., Mitchell-Olds, T. and Weisshaar, B.
Large-scale identification and analysis of genome-wide
single-nucleotide polymorphisms for mapping in Arabidopsis thaliana Genome Res. 13 (6), 1250-1257 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CB261053 606 bp mRNA linear EST 06-NOV-2003 35-E9570-012-004-E09-T7R MPIZ-ADIS-012 Arabidopsis thaliana CDNA clone MPIZ2769E094Q 5-PRIME, mRNA sequence.
                                                                                                                                              900
540
                                                                         552
                                                                                                                                                                                     Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta; Magnoliophyta, eudicotyledons, core eudicots, rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
481 TTGTTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAATAATGTTGCTGCAACG
                                              493 TIGITITGAGGAGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                              541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCCAGTCAGGTTATAAAAGCCACAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Breeding Research
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Contact: Weisshaar B
ADIS DNA core facility at MPIZ
ADIS DNA core facility at MPIZ
Max-Planck-Institute for Plant Breeding Resear
Carl-von-Linne Weg 10, 50829 Koeln, Germany
Fax: 00492215062851
Email: weisshaa@mpiz-koeln.mpg.de
Insert Length: 606 Std Error: 0.00
Plate: 4 row: E column: 09
Seg primer: T7R; CTAATACGACTCACTATAGGGA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /mol_type="mRNA"

ecotype="Landsberg erecta"

/db_xref="raAB1:589856"

/db_xref="taxon:3702"

/clone="MPIZp769E094Q"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Arabidopsis thaliana (thale cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GI:32885826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (bases 1 to 606)
                                                                                                                                                                                                                                                                                                 601 ATGGAGTCTGCA 612
                                                                                                                                                                                                                                                                                                                                                                      613 ArddAGCCrGCA 624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          909. .
```

ઠે

ઠે

ò 원 ò ò

```
Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               473
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Loca
Matches
 JOURNAL
                                                                                                                         FEATURES
              COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CEZ15873 920 bp mRNA linear EST 01-AUG-2003 GAST0002 IVF B05 Vitis vinifera cv. cabernet sauvignon Stem - CAST Vitis vinifera cDNA clone CAST0002_IVF_B05 5', mRNA sequence.
Weisshaar Sequence submission managed by RZPD/GABI-Primary database: http://gabi.rzpd.de. This clone is available from RZPD; contact RZPD (clone@rzpd.de) for further information."
                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCTCAGCAGCAAGCCCTTTACATGGCT 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTGAATCAACAAGCTATTGCTAATGCT 1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CITAACGIAGCIICIGCAAAIIGGICAAACCCCGGCGGCIACCAGAICCCCCGGAAIGACI 1164
                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                            TCATCTTCTGACTTTGAGGATTTGTTTAAGGACACACCTAATTTAACAACTCGACAGGA 924
                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          540
                                                                                                                                                                                          684
                                                                                                                                                                                                             744
                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                     804
                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                          864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCT 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Vitis vinifera
Mukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots,
rosids, Vitaceae, Vitis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goes da Silva, F., Iandolino, A., Lim, H., Baek, J., Leslie, A., Xu, J., Jones, K. and Cook, D.

Expressed sequence tags from Vitis vinifera 'Cabernet sauvignon' berries at various developmental stages
                                                                                                                                                               9
                                                                                                                                                                  CAGGGACCCAGTCAGGTTATAAAGCCACAGCAAAAATGGAGTCTGCAGCTACTCCAGTA
                                                                                                                                                                                          GAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCATCAGATCCTCCAAAGGTGGATTTT
                                                                                                                                                                                                                                                 GCTACTGATCTGTTTAACATGCTATCAATGGATGATTCGACTACAAATACCTCAGAGGCA
                                                                                                                                                                                                                                                             GCTACTGATCTGTTTAACATGCTATCAATGGATGATTCGACTACAATACCTCAGAGGCA
                                                                                                                                                                                                                                                                                                     GGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCTGCTGAGAGCGAGTTCTCCTCCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                             421 TTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCTCAGCAGCAAGCCCTTTACATGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTTAACGTAGCTTCTGCAAATTGGTCAAACACCGGCGGCTACCATATCCCCGGAATGACT
                                                                                                                                       CAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAATGGAGTCTGCAGCTACTCCAGTA
                                                                                                                                                                                                                                                                                                                                                          GGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCTGAGAGCAGTTCTCCTCCAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCT
                                                                                                            Gaps
                                                                                                            ô
                                                                                 909
                                                                                  Length
                                                                                                           Indels
                                                                              Score 599.6; DB 6;
Pred. No. 2.1e-164;
0; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CF215873.1 GI:33410246
                                                                                  41.3%;
99.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (bases 1 to 920)
                                                                                                            Matches 602; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vitis vinifera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACCCC 1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     909
                                                                                               Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AACCCC
                                                                                                                                                                                                                                                  685
                                                                                                                                                                                                                                                                                                       745
                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                  865
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1165
                                                                                                                                                                  Н
                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                       565
                                                                                                                                                                                            625
                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                            805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             985
                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 6
CF215873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                       DRIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠેં
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                               ద
                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
```

ઠે

ઠ g ò

```
/note="Organ: Stem; Vector: pDNR; Site_1: sfil; Site_2:
sfil; CAST is a cDNA library of Vitis Vinifera cv.
'Cabernet Sauvignon' stems. Samples were collected May 13,
2002 from pre-bloom plants (10-11 days before bloom),
pre-veraison. Sampled vines were located at the University
of California, Davis, Experimental Vineyard. cDNAs were
made by oligo-dT priming and directionally cloned. 5'and
3' adaptors were used in cloning as follows:
5'-ARTTAGAGGCGAGCGGCATGCGCCGCGGG-3' and
5'-ARTTAGAGGCGGCGAGCGGCATGTGCGCCGGG-3' in a constructed using the Clontech Creator SMARY kit and
size-selected to contain the 0.5-3 kb size fraction."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   113 Argaacgagaaggccaacgrracraaggagcrraargccaggcacagaaagaracragaa 172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      352
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         533 recechentreschragecersesearachescresargicaharachechecharterene 592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                         /clone_lib="Vitis vinifera cv. cabernet sauvignon Stem CAST"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCGGGGGTACACATATCGAAGGTTCGGATCTGCCACTTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGGATTCCTAAGGATGGAAAACCAAGATCAACTTCTCAGGGTCGAGAAGAAAGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      173 GECCTTCTTAAACTGCCTGAGAACAGAATGTGTGCTGACTGCAAAAGCAAAGGTCCTAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCCCAAACTAGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -GGAAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCT-AGAGTCGAGCAGGAACGGC-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                  dev stage="Pre-bloom (10-11 days before bloom)"
|ab_host="DH5alpha"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 920;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28.0%; Score 406.4; DB 7;
llarity 73.3%; Pred. No. 1.5e-107;
Conservative 0; Mismatches 186;
                                                                                                                                                                                                                                                 /organism="vitis vinifera"
/mol_type="mRNA"
/cultivar="Cabernet Sauvignon"
/db_xref="taxon:29760"
/clone="CAST0002_IVF_B05"
/sex="HermaphrodIte"
                                                                                CA 95616, USA
Contect: Douglas Cook, PhD
CAES Genome Facility
UC Davis, Plant Pathology
UC Davis, Plant Pathology
UC Baris, 754 6561
Fax: 530 754 6561
Fax: 530 754 6561
Fax: 530 754 6561
Fax: 530 154 661
```

ઠ 셤 ò d ઠ 셤 ઠ 셤 ð 셤

```
CO095556 866 bp mRNA linear EST 16-JUN-2004 GR_Eal8E01.r GR_Ea Gossypium raimondii cDNA clone GR_Eal8E01 3', mRNA sequence.
CO095556.1 GI:48794242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gossypium raimondii
Gossypium raimondii
Gossypium raimondii
Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Malvales; Malvaceae; Malvoideae; Gossypium.
1 (bases I to 866)
Kim, H., Yu, Y., Kudrna, D., Hatfield, J., Stum, D., Mueller, C.,
Udall, J.A., Rapp, R.A., Wendel, J.F., Rao, K., Soderlund, C. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             718
                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                          242 GTTGCTTTTATTCAATCAATGGGAATGAAAAGGCAAACAGTTACTGGGAAGCTGAGTTA 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGG--- 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599 AAGCCTGAACCAGTTGTTGCGCCAGCTGAGGCAACAAGAGCCAGCTGTAGAGACTGCTCCC 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GA---TICGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAAC 774
                      120
                                                                      121
                                                                                                                           180
                                                                                                                                                                              181
                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                  GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           302 cccccraarrardaragagrrggaarrgagaacrrcarccgrgcaaagrargaggaaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGGAAATCTGTGGAGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                478 AATTIGITIGAGGAGAGGAAAACTATICCAGCAICTAGAACAAGAAATAATGTIGCIGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                542 ACAAGAGTTAGTCTTCCTCTTAAGGGACCTGATCAGGTTACA---CCCGTACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   598 AAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    719 GATGGTCCAAGTGAAATGGTTCTGAGGCAACTTCTACTGATGATTGGGCAGGCTTCCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        538 ACGAGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGGTCAGGTTATAAAGCCACAGCAG
                                                     CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                      GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wing, R.A.
Global assembly of Cotton ESTs
Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCATGGGCTGG 785
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rerecreered 789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST
                                                                                                                                                                                122
                                                                                                                                                                                                                                                                                              182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      779
                            61
                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   775
                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20095556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
                                                                                                                                                                     d
                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                              ò
                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 894 bp mRNA linear EST 16-JUN-2004
_ED Gossypium raimondii cDNA clone GR_ED01018 5',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gossypium raimondii
Gossypium raimondii
Gossypium raimondii
Bukaryoca, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots,
rosida; eurosida II, Malvales; Malvaceae, Malvoideae, Gossypium.
1 (bases 1 to 894)
Kim, H., Yu, Y., Kudrna, D., Hatfield, J., Stum, D., Mueller, C.,
Udall, J.A., Rapp, R.A., Wendel, J.F., Rao, K., Soderlund, C. and
Ming, R.A.
                                                     588
                                                                                                          712
                                                                                                                                                             639
                                                                                                                                                                                                             cencarchagenactroscada accarcactes con contrates and contr
                                                                                                                                                                                                                                                                     669
                                                                                                                                                                                                                                                                                                                       832
                                                                                                                                                                                                                                                                                                                                                                               759
                                                                                                                                                                                                                                                                                                                                                                                                                                     -----GCC 880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /clone lib= GRR ED"
//note="Vector: pGWV.SPORT-6.1; Site 1: Not1; Site 2:
BCoRV; Library made by Invitrogen with RNA supplied by
Wendle lab. Directional cloned into Not1-EV. Colonies
plated/picked by AGI. More glycerol clones held in -80.
                                                                                            700 AACAIGCTAICAAIGGAIGAIITCGACIACAAAIACCTCCAGAGGGAACICCIGGGGAIACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AATTCATTTGAGGAAAAGAAGAATGTTCAGGCACCTAGTATAAAAGATAACGGGCCTGCT
                                                                                                                                                             CCACAG------CAGAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGAAACAA
                                                                                                                                                                                                                                                                                                                       773 gerecagaireraerecagnaerecerecetaaaerrearrarechartearen
                                                                                                                                                                                                                                                                     GCAGTAAATGTTGCACCAGCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Global assembly of Cotton ESTs
Unpublished (2004)
Contact: Rod A. Wing
Arizona Genomics Institute
The University of Arizona
Forbes Building Room 303, Tucson, AZ, 85721-0036, USA
Tel: 520 621 1259
Email: http://genome.arizona.edu
Plate: 01 row: 0 column: 18.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cch 26.9%; Score 391; DB 7; Length 894; I Similarity 71.0%; Pred. No. 5e-103; 562; Conservative 0; Mismatches 220; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                        833 TACATGCTTTCTATGGATGATCCTACTGAAAATGGCTCAGAGGCA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      760 CCTGCCGATGATAACTCATGGGCTGGCTTTCAGTCTGCTG 799
                                                        ACGAGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /organism="Gossypium raimondii"
/mol_type="mRNA"
/db_xref="taxon:29730"
/clone="GR_Ebolool"
/tissue_type="floral"
/dev_stage="3 to +3 DPA"
/lab_host="DBIOB"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CO117860.1 GI:48816547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eb01018.f GR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seguence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CO117860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S:
Matches 562
                                                                                                             653
                                                                                                                                                                                                               713
                                                        538
                                                                                                                                                                589
                                                                                                                                                                                                                                                                        640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 7
CO117860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
```

ઠ . <del>ପ</del>

```
358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTTGGGGTACACATATCGAAGGTTCGATCTGCTACACTAGACACATGGCTTCCTGAGCAG 418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              539 AGAIGGGITCCTAGAGAAGAIGGAAAAICCAAAICACCACCTAGAAGGIIGGACGAAAAGGCI 598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421 AAAŢC---ŢGTGGAGAGAGAGTGGGCCGGGATAŢGAGCAŢGGACATAGTAGTAGTAGTCCŢGTA 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       599 cccicacairoscasasasciaarcaacissicaissescarrastaarirceas 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    719 ACAAGAGTTAGTCTTCCTGTTCCTTCCTAAGGGACCTGATCAGGTTACA---CCCGTACAG 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             776 AAGCCTGAACCAGTTGTTGCGCCCAGCTGAGGCAACAAAGCCAGCTGTAGAGACTGCTCCC 835
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                     /clome_lib="GR_Ea"
/note="Vector: pCMV.SPORT-6:1; Site 1: NotI; Site 2:
BCoRV; Library made by Invitrogen with RNA supplied by
Wendle lab. Directional cloned into Not1-Ev. Colonies
plated/picked by AGI. More glycerol clones held in -80.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               179 ATGAACGAGAAGGCCAGCGTTACCAAGGAGCTCAACGCCCAGACACCAGAAGATTATTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               239 AGTCTTCTTAAATTGCCGGAGAATAGGGAATGCGCCGACTGCAAAGCCCAAAGGTCCGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              299 TGGGCAAGTGTGAATTTAAGGTATCTTTATATGCATGCAATGTTCTGGGATCCACAGAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCCTAATTATGATAGAGTTGGAATTGAGAACTTCATCGTGGAAAGTATGAGGAAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  478 AATTIGITITGAGGAGAAAACTAITCCAGCAICTAGAACAAGAAATAAIGIIGCIGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 538 ACGAGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAATGGAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ATGAACGAGAAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                        Forbes Building Room 303, Tucson, AZ, 85721-0036, USA Tel: 520 626 9595
Fax: 520 621 1259
Email: http://genome.arizona.edu
Plate: 18 row: B column: 01.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 866;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 25.6%; Score 371; DB 7; Length 86 Best Local Similarity 73.1%; Pred. No. 3.8e-97; Matches 505; Conservative 0; Mismatches 180; Indels
                                                                                                                                                                                                            organism="Gossypium raimondii"
                                                                                                                                                                                                                                                                     /clone="GR_Ea18E01"
/tismue_type="whole seedlings"
/dev stage="first true leaves"
/lab_host="DH108"
                                                                                                                                                                                                                              /mol_type="mRNA"
/db_xref="taxon:29730"
Contact: Rod A. Wing
Arizona Genomics Institute
The University of Arizona
                                                                                                                                                                                      1. .866
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                   PEATURES
  COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
```

658 GCATCAGATCCTCCAAAGGTGGATTTTGCTA 688

ઠે

```
Annuary-March 2003 [Federici, Roose lab; Foch; Sievert & Robinson, Angala lab): Four samples related to storage conditions were produced: 1) fresh-picked in Mentone Robinson, Angala lab): Four samples related to storage conditions were produced: 1) fresh-picked in Mentone (Arnott Brothers Enterprises, Mentone, CA), 2) after 21 days storage at 5C at Kearney then transported to UC Riverside on ice, 3) after 5 additional days storage at 11C at Kearney, sampled immediately, 4) fruit grown in southern CA were obtained from Redlands Foothill Packing House after commercial packing, X-ray irradiated at 300 Gy by Surebeam, then stored i day at ambient temperature. Pulp tissue (juice vesicles) were collected. Tissues were snap frozen and then stored at -80C until further processing. Fenton (Close lab) purified RNA by the phenol method described in J. Japanese Soc. Hort. Sci. 1996. 64 (4): 809-814, purified poly(A) mRNA using a PolyAftrack mRNA isolation System IV (Promega), produced a primary cDNA library to produce a phagemid population. Flatagene), then mass-excised one million pit from the primary library to produce a phagemid population. Phagemids were plated, plasmid DNA purified, cDNA clones archived, and DNA sequences determined bi-directionally using an ABI330 at the Airzona Genomics Institute, University of Arizona (Kim, Kudrna, Stum, Yost, Wing). Chromatogram files were downloaded by FTP to UC Riverside (by Close), then processed at UC Riverside (by Wanamaker, Close) lab) using the HarvEST pipeline (http://harvest.ucr.edu) to remove vector and cloning oligo sequences and various contaminants, and to trim to a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Close, T.J., Roose, M.L., Arpaia, M.L., Federici, C.F., Fenton, R.D., Wanamaker, S., Focht, E., Sievert, J., Robinson, P., Kim, H.R., Kudrna, D., Stum, D., 
                                                                                                                                                                                                                                                                                                                             CN187799 178 Dp mRNA linear EST 15-APR-2004 UCRCS05_0005A10_r Washington Navel Orange Stored Fruit Pulp cDNA Library Citrus Sinensis cDNA clone CS_WEb0005A10, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   dev stage="Commercially producing trees"
/lab_host="E. coli fJC121"
/clone_lib="Washington Navel Orange Stored Fruit Pulp cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Contact: Timothy Close
Department of Botany & Plant Sciences, University of California
Riverside, CA, 92521-0124
Tel: 909787318
Fax: 9097874437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Trachec
Spermatophyta; Magnoliophyta; eudicotyledons, core eudicots,
rosids, eurosids II; Sapindales, Rutaceae, Citrus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'note="Vector: Lambda Uni-ZAP XR, excised phagemid;
/mol_type="mRNA"
/cultivar="Washington navel"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .749
/organism="Citrus sinensis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       db_xref="taxon:2711"
clone="CS_WED0005A10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Email: timothy.close@ucr.edu
Seg primer: T3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           tissue_type="Pulp"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CN187799.1 GI:46212736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Unpublished (2004)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Citrus sinensis
Citrus sinensis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   source
                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                 RESULT 9
CN187799
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
                                                                                                                                                                                                                                                                                                                                              LOCUS
                                                               셤
```

ORIGIN

g ઠે 심 Š 셤 ઠ 셤 ઠે

```
825 bp mRNA linear EST 16-JUN-2004
Gossypium raimondii cDNA clone GR_Ea19K21 3',
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 618
                                                                                                                                                                                                                                                                                                                                                                                                                                                              138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         124 GGTATCTTTATATGCATGCAGGTTCCAGGGATCCAGAGGTCTTGGGGTACACATCTCA 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                663
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAGAGAGGGTTTCTAGAGGG 378
                                                                                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       244 ATGGGGAATGAGAGGGCAAATAGTTATTGGGAAGCAGAGTTACCCCCCAAACTACTACGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTAATTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAGAATAGGGAATGTGCTGACTGCAAAGTCAAAGGTCCAAGATGGGCAAGCGTGAATTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGTATCTTTATCTGCATGCATGTTCTGGGATTCACAGGAGTCTCGGGGGTACACATATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGGAAATCTGTGGAGAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACGAGAATAAATCTTCCCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    619 CCAGTAGAGAGGAG------AAACAAGCAGTAAATGTTGCACCAGCATCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601 GAACCAATGGTGGAGGCTACTGAAGCTGCAAAGAAAGTTGCAGATGCTGCTCCAGCTGTC
                                                                                                                                                                                                                                                                                                                                                                                               4 GTCTCTAAAGAGCTCAATGCTAGACACAGAAAGATCTTGGAAGGCCTCCTCAAATTGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAGGITCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 559 CCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAAATGGAGTCTGCAGCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 541 cerectagadesegaseaseaserracrecaaaseereaaceaseaseaseer
                                                                                                                                                                                                                                                                                                                                                              GTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAAGGGCTTCTTAAACATCCA
                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  664 GATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATG
                                                                                                                                                                                                                                                                                                                 18;
                                                                                                                                                                                                                                                                      723;
                                          /organism="Populus deltoides"
/mol_type="mRNA"
/strain="TiL.129"
/db_xref="taxon:3696"
/issue_type="stem"
/dev_stage="1 year old"
/clone_lib="Populus stem seasonal library"
                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                 24.6%; Score 357.2; DB 7; 71.0%; Pred. No. 4e-93; ive 0; Mismatches 189;
cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C0096428
GR Eal9K21.r GR Ea
mRNA sequence.
C0096428
C0096428.1 GI:487951
EST.
Gossypium raimondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Εä
                                                                                                                                                                                                                                                                                                                      508; Conservative
                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                      Query Match
Best Local Si
Matches 508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                      13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        499
                                source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
CO096428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
SOURCE
          FEATURES
                                                                                                                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              임
                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CK319497 T23 bp mRNA linear EST 11-MAY-2004 X9P11d11 Populus stem seasonal library Populus deltoides CDNA, mRNA sequence. CK319497.1 GI:47107920
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tree
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Populus deltoides
Populus deltoides
Populus deltoides
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids 1; Malpighiales; Salicaceae; Saliceae; Populus.
1 (Dases 1 to 723)
Park,S. and Han,K.-H.
                                                                                                                                                                                                                                                                                                                                                                                                                                          283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    537
                                                                                                                                                                                                                                               104 Argancia gande de de contra de la companida de la compa
                                                                                                                                                                                                                                                                                             GGGCTTCTTAAACATCCAGAGAACAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                               223
                                                                                                                                                                                                                                                                                                                                                                                               121 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAG---TCGAGCAGGAACGG 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    524 rcrarrcairgecagagaccigoggaaaagagigogcargorracacrearaarrcigaa 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    643
                                                                                                                                                                                                  9
       high quality region. Sequences that retained a phred 17 region of at least 100 bases were deposited to GenBank."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             464 CGATGGGTTTCTAGAGATGGACAAGCAAAATCACCTCCTAGAGGGCTGGAGAAAAGGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene expression profile during seasonal growth cycle in poplar Unpublished (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AATTTGTTTGAGGAGGGAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    584 AACTTATCTGAGGAAAGGAAGCATGTTCAAGCTCCAAGTACAAAAGATAGTGTTCCTGCT
                                                                                                                                                                                                                                                                                                                           224 TGGGCTAGTGTGAATTTGGGAATCTTTATCTGCATGCAATGTTCTGGGATCCACAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    418 CGGAAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTA
                                                                                                                                                                                                  1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                    Gaps
                                                                                                                                                    3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                    749;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    538 ACGAGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTAT 584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                48824-1222,
                                                                                                    Score 364.6; DB 7; Length Pred. No. 2.7e-95; 0; Mismatches 129; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Michigan State University
126 Natural Resources, East Lansing, MI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Contact: Kyung-Hwan Han
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Department of Porestry
                                                                                                    25.1%;
ilarity 77.5%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: hanky@msu.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tel: 517 353 4751
Fax: 517 432 1143
                                                                                                                              Similarity
                                                                                                                                                    455;
                                                                                                    Query Match
Best Local S:
Matches 455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 344
                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 10
CK319497
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
```

요

셤 ò 셤 ò 쉽 ò a ઠ a

ઠે

```
348 bp mRNA linear EST 15-DEC-1994 Strasbourg-A Arabidopsis thaliana cDNA clone FAFN16, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241 NAATGGGAAATGATAAAGCAAATAGTTACTGGAAGCAGAGCTACCCCCCAAACTATGATA 300
                                                                                                                                                                                                                                                                                                                                Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, eudicotyledons, core eudicots, rosids, eurosids II, Brassicales, Brassicaceae, Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATAT 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                257 CAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATA 316
                                                                                                                                                                                                                                                                                                                                                                                                                                  The Arabidopsis thaliana transcribed genome: the GDR cDNA program Unpublished (1996)
Contact: Parmentier Y., Criqui M.C., Durr A., Fleck J.
Fleck Jacqueline / L626
Biologie Moleculaire des Plantes - CNRS
12 Rue du General Zimmer, 677084 Strasbourg Cedex, France
Email: ARABANKGNEDOC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone lib="Strasbourg-A"
/nore="Vector: Lambda ZAPII; tissue=sliced leaves of
A.thaliana ecotype columbia; clone_library=Strasbourg-A;
Cloning vector: Lambda ZAPII; Physiological condition:
leaves strips incubated 2/3/4 days in liquid culture
                                              725 ACAAGAGTTAGTCTTCCTGTTCCTCCTAAGGGACCTGATCAGGTTACACCCGTACAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      538 ACGAGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACGICICIAAGGAGCITAATGCCCGCCATAGAAAGATTCTTGAAGGCCTTCTTAAACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ACGICICITATAGAGCTITAATGCCCGCCATAGAAAGATICTTGAAGGCTTCTTAAACATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77 CAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CAGAGAACAGAGAATGTGCTGACAAAACAAAAGGTCCAAGATGGGCTAGTTAATT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAAGGTTCGATCTGCCACTCTGGACACACATGCTCCCCGAGCAGGTTGCATTTATACAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. 348
/organism="Arabidopsis thaliana"
/ool_type="mRNA"
/ecotype="Columbia"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 347; DB 7;
Pred. No. 3.1e-90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23.9%; Scor. No. 5...
99.7%; Pred. No. 5...
                                                                                                                                                                                                                                                                                        Arabidopsis thaliana (thale cress)
Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="FAFN16"
                                                                                                                                                                                                                                 Z37245
Z37245.1 GI:587021
                                                                                                                                                                                                                                                                                                                                                                                                  (bases 1 to 348)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 99.7 tes 347; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nedium
                                                                                                                                                                Z37245
ATTS3988 S0
sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                       CNRS.
                                                                                                                                                                                                                                                                           EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                               ACCESSION
                                                                                                                          12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                        RESULT
Z37245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORIGIN
                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
Gossypium raimondii
Sukaryora, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosida; eurosida II; Malvales; Malvaceae; Malvoideae; Gossypium.
1 (bases 1 to 825)
Tim, H., Yu,Y., Kudrna,D., Hatfield,J., Stum,D., Mueller,C.,
Udall,J.A., Rapp,R.A., Wendel,J.F., Rao,K., Soderlund,C. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGCTTCTTAAACATCCAGAGAACAGAATGTGCTGACAAAACAAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGG--- 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAACGAGAAGGCCAGCGTTACCAAGGAGCTCAACGCCAGACACCGGAAAGATTATTGAA 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGGGTTCCTAGAGATGGAAAATCCACCACCTAGAAGGTTGGACGAAAGGGCT 604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGGAAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTA 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCTCACATTGGCAGAGACCTAATGAAACAAGTGGTCATGGGCACATTATTAATTCCGAG 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /clone="GR_Ea19K2!"
/tissue_type="whole seedlings"
/dev_etage="first true leaves"
/lab_host="HH10s"
/lab_host="HH10s"
/clone_lib="GR_Ea"
/note="vector: pCMV.SPORT-6.1; Site 1: Not1; Site 2: Eccky. Library made by Invitrogen with RNA supplied by Wendle lab. Directional cloned into Not1-EV. Colonies plated/picked by AGI. More glycerol clones held in -80.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTTGGGGTACACATATCGAAGGTTCGATCTGCTACACTAGACACATGGCTTCCTGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGGCAAGTGTGAATTTAGGTATCTTTATATGCATGCAATGTTCTGGGATCCACAGAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ccccraarrargararagagricgaarragagacriccarccargcaaagrargaggaaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AATTTGTTTGAGGAGGAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 7; Length 825;
                                                                                                                                                                                                                                                                       AZ, 85721-0036, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24.5%; Score 355.2; DB 7; Length llarity 75.7%; Pred. No. 1.6e-92; Conservative 0; Mismatches 143; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                       /organism="Gossypium raimondii"
/mol_type="mRNA"
/db_xref="taxon:29730"
                                                                                                                                                                                 Unpublished (2004)
Contact: Rod A. Wing
Arizona Genomics Institute
The University of Arizona
Forbes Building Room 303, Tucson, AZ
Tel: 520 626 9595
Fax: 520 621 1259
Email: http://genome.arizona.edu
Plate: 19 row: K column: 21.
Location/Qualifiers
                                                                                                                                                                    Global assembly of Cotton ESTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 454; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      305
    ORGANISM
                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                  PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
```

ద

ઠે

g

ઠે

셤

8

g ઠે g ò 셤

ઠ

g

8

g

à

ਨੇ

ô

136 120

9 96

Wed

```
1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1169 reaccestricareatarecreactecacererreceaagraariceaagaardar 1228
                                                                                                                                                                                                                                                                        947 GTTGGGCCACCTCCTAAAGTTGATTATGCTACTGATCTCTTTAACATGTTATCAATGGAT 1006
                                                                                                                                                                                                                                                 717
                                                                                                                                                                                                                                                                                                                                777
                                                                                                                                                                                                                                                                                                                                                                    1007 GGAACAACAGAGAAAAGAGTCAGAGTCATCTTCAAAC------GATGATAATGCC 1054
                                                                                                                                                                                                                                                                                                                                                                                                                                                 1055 researescriccastrecaraceas accasta en 1114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear EST 15-SEP-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Juglans regia

Bukaryota, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids I; Fagales; Juglandaceae; Juglans.

1 (bases 1 to 742)

Mulr, R., Baek, J., Leslie, A., Cook, D. and Dandekar, A.
Analysis of genes expressed in walnut seed coat tissue
Contact: Abhaya Dandekar, PhD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           897
                                                                                                                                                                                                                                                                                                                                                                                                              837
                                              826
                                                                                        597
                                                                                                                           886
                                                                                                                                                                   657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              742 bp mRNA linear EST 15-8EF-20v from mid-season walnut embryos collected clone WSC0009_IF_F06 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1115 CCAGCAGAAAGCAAAGACCC-----AGTCAACATCTGGAATAGAAGACTTATTTAAAGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  767 AACCGTGGTTCACCAGCTCCTTCCGAGCAAGTTGCACCTGTAGCTTCAAGGATACCCTCT
                                                                                     CGAGAATAAA-TCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAG
                                                                                                                           cacicateacercaececeaaggaagaacaceacagriceraaggiggiricaecer
                                                                                                                                                                   598 AAAATGGAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                           887 CAGCCACAGAAATCTCCTGCCAAAGTTGAGGCAACACCCCCTAAAGTTGAGAAGCCATCT
                                                                                                                                                                                                                                                   GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                                                                                                                  GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA
                                                                                                                                                                                                                                                                                                                                                                                                              778 TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAATTGTCACAGCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           838 CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTTGAGGATTTGTTTAAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --- AAAAGATGTGAAAGGCGAT
          ATTIGITED GGAGGAGGAAACTATICCAGCATCTAGAACAAGAAATAATGTTGCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1006 GITGCTATGCTCGCTCAGCAGCCCTTTACATGCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             898 ACACCTAATTTAACAACTCAACAAGCACC-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Email: amdandekar@ucdavis.edu
Seq primer: WSCF-TCCGAGATCTGGACGAGC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Juglans regia"
|mol type="mRNA"
|cultivar="Tulare"
|db_xref="taxon:51240"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAES Genome Facility
UC Davis, Department of Pomology
One Shielda Ave, Davis, CA 95616,
Tel: 530 752 7784
Pax: 530 752 8502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Juglans regia (English walnut)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGF1003951_F06 Seed coat
Aug 1 Juglans regia cDNA
CV197356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CV197356.1 GI:52126193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             946
            479
                                                                                                                               827
                                                                                            539
                                                                                                                                                                                                                                                         658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
CV197356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                         셤
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                        윤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                            셤
                                                                                          ઠ
                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                    Enkaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD clade; Panicoideae; Andropogoneae; Saccharum; Saccharum officinarum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŝ
                HTC 30-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGTCTTCTTCGGCTGCCTGAGAATAGAGAATGCGCGGACTGCAAGTCGAAGGGTCCTCGA 406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGATGGGTACCGAGGAATGGAACATCACGACCTTCCTCCGGTGTTCGAGATGAGAAGAGC 706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        chagagrerecegerneradadegagreachegaeardereardererrererrangen 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Oliveira, L.P., Carvalho, R.A., Drezza, A.L., Fregolente, M.C., Martini, I.J., Nascimento, E.O., Tsuneda, S.S., Rodrigues-Filho, P.C., Ulian, E.C., Nogueira, F.T.S., Vicentini, R., Felix, J.M. and
                                                                                                                                                                                                                                                                                                                                       Characterization of conserved hypothetical proteins from sugarcane
                                                                                                                                                                                                                                                                                                                                                                                               2 (bases 1 to 2173)
Oliveira,L.P., Carvalho,R.A., Drezza,A.L., Fregolente,M.C.,
Martini,I.J., Nascimento,E.O., Tsuneda,S.S., Rodrigues-Filho,P.C.,
Ulfan,E.C., Nogueira,F.T.S., Vicentini,R., Felix,J.M. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Direct Submission
Submitted (12-APR-2004) Departamento de Genetica e Evolucao,
Instituto de Biologia, Centro de Biologia Molecular e Engenharia
Genetica, Universidade Estadual de Campinas - Campinas (UNICAMP),
Campinas, SP 13083-970, Brazil
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGT--AGTCCTGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
            AYS96550 2173 bp mRNA linear HTC 30-M3 Saccharum officinarum clone SCCCRZ1001B01, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 2173;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              organism="Saccharum officinarum"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23.6%; Score 343.2; DB 3;
llarity 61.2%; Pred. No. 7.7e-89;
Conservative 0; Mismatches 383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /mol_type="mRNA"
/db_xref="taxon:4547"
/clone="SCCCR21001B01"
                                                                                                                                      Saccharum officinarum
Eukaryota; Viridiplantae;
                                                                         AYS96550.1 GI:47605274
                                                                                                                   Saccharum officinarum
                                                                                                                                                                                                                                        (bases 1 to 2173)
                                                                                                                                                                                                                                                                                                                                                                (Saccharum sp.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                Unpublished
                                                                                                                                                                                                                                                                                                                    Menossi, M
                                                                                                                                                                                                                     complex.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Menossi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches 656;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local
                               DEFINITION
ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                      REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
AX596550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
```

g

Š

셤 Š

ठे

品 谷 品 谷 品

õ 셤 g

8

724

```
Submitted (15-APR-2002) Maize Mapping Project, University of Submitted (15-APR-2002) Maize Mapping Project, University of Missouri, Columbia, MO 65211, USA
Missouri, Columbia, MO 65211, USA
Lif you are interested in getting corresponding physical clones, these are publicly available from ZmDB and may be found by BLAST searching at MSL, maizemap.org; ZmDB www.ramb.isatate.edu, TIGR, www.tigr.org, or NCBI, www.ncbi.nlm.nih.gov. When the source of the maize cDNA sequences is either Virginia Walbot, Stanford or Pat Schnable, Iowa State, then clones may be requested from ZmDB:
www.zmdb.iastate.edu.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HTC 16-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299 ATGAACGAAAAGGCGTCCGTCCCAAGGAGCTCAACGCCAAGCACAAGAAGATATTGGAA 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
Spermatophyta, Magnoliophyta, Liliopsida, Poales, Poaceae, PACCAD
clade, Panicoideae, Andropogoneae, Zea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note="this sequence is part of a project of EST assemblies resulting from the application of public contigs to seed DuPont contigs, this resource was assembled by DuPont as part of a collaboration for the overgo addressing of BACs in conjunction with the Maize
665 GCTGTCTCCACCAAAGGTTGACTANGCAACTGACCTTTTCGATATGTTAACCATGGAT
                                                                                            658 GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419 resecvaerereanteraegrarerritararecareacarerreresecarrearagaace
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCCCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             359 gercrirchaceccarccreaeaaracaeaarececaeacrecaacracaaacercaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 2189)
Hainey, C.F., Dolan, M., Miao, G.H., Vogel, J.M., Whitsitt, M.S., Arthur, L.W., Hanafey, M., Morgante, M. and Tingey, S.V.
Maize Mapping Project/DuPont Consensus Sequences for Design
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'clone_lib="Maize Mapping Project/DuPont Cornsensus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23.3%; Score 338.4; DB 3; Length 2189; llarity 60.9%; Pred. No. 2e-87; Conservative 0; Mismatches 386; Indels 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="MaizeDB:638642"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zea mays PCO146209 mRNA sequence. AY105375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              'db_xref="taxon:4577'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        organism="Zea mays"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mapping Project'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GI:21208453
                                                                                                                                                                                                                                         718 GATTCGACTACAAA 731
                                                                                                                                                                                                                                                                                                            GCTCCAAGTGAAAA 738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Overgo Probes
Unpublished (2002)
2 (bases 1 to 2189)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ...2189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Library
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 Similarity
653; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AY105375.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Coe, E.H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Si
Matches 653;
                                                                                                                                                                                                                                                                                                            725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
AY105375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                               8
                                                                                                                                                                  원
                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                           Collected Aug 1"

// note="Organ: Seed coat; Vector: pTriplEx2; Site_1: SfilA; Site=1: SfilA; Si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTTGGGGTACACATATCGAAGGTGCGGTCTGCTACCTGGACACTTGGCTTCCAGAGCAG 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccrccaaarrargaragagrrggaarrgaaaarrrrarrcgrgcaaagracgargacaag 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGG--- 417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              386 AGATGGATTCCAAAGGATGGAAAAACAAAATCATCAACTAGAGGGCAGGAAGACAAGGCT 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  418 CGGAAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCTGTA 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 446 TCTGTGCATTGGCAGAGACCTGGGGAAAGAAGTGGTCCGGGCCCTAGTTCTGGTTCTGAA 505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    506 AAGACATTTGAGGAAAGGAAGAACACTCGACCATCTAGTACTA-----TTCCCTCT 556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        538 ACGAGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAG 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           557 ACCAAATGAGCATTCCTGTTCCACCTAAAGGACCTGAGCAGAAATAGAACCAGCAC- 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598 AAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAACAAGCAGTAAATGTTGCACCA 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u> ATGAACGAGAAGGCCAACGTTTCCAAAGAGCTCAACGCCAAGCACAGAAAGATACTGGAA</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     478 AATTTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGGCTAGTGTGTATTTAGGCATATTTATATGTATGCAGTGTTCGGGGATCCATAGAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                          /clone_lib="Seed coat from mid-season walnut embryos
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24;
   /clone="WSC0009 IF_F06"
|sex="Hermaphrodite"
|dev stage="Mid season fruit collected Aug 1"
|lab_host="X110-Gold"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 7; Length 742;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 339.8; DB 7;
Pred. No. 5.3e-88;
0; Mismatches 198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 23.4%;
Best Local Similarity 69.8%;
Matches 512; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
```

a

원

δ 셤 ઠે 유 8

ઠે

a

g

ò

요

ઠે ద ð q ઠે

ઠે

셤

ð

120

418

```
946 ATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAG 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ccaccacaaadcaacaccac----rcracarcrecaarcaacrrarrraaadac 1180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1181 reaccaccierecearrarcereacereciererireceaagraaceeraagarear 1240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1019 gaaacaacaacaaaaagacrcaccarca------rcircaaacgacaahargc 1066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      718 GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA 777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   898 ACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGC------GAT 945
                  CTGGGGGTGCACATATCTAAGGTAAGATCTGCCACCCTGGATACATGGCTGCCAGGAGAA 538
                                                                                  GTTGCATTTATTCAATCAATGGGAAACGAAAAAGCAAATAGCTATTGGGAAGCAGAGCTG 598
                                                                                                                             CCCCCABACTATGATAGAGTTGAGAATTTTATACGTGCAAAGTATGAGAAG 360
                                                                                                                                                 CCTCCTAACTACGATAGGGTTGGAATAGAGAATTTCATCCGTGCAAAATATGAGGACAAG 658
                                                                                                                                                                                                                      AGATGGGTACCAAGGAATGGAACATCAAAATCTTCGTCCAGTGTTCGAGATGAGAAGAGC 718
                                                                                                                                                                                                                                                                                                                                                                                          CGAGAATAAA - TCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAAGCCACAGCAG 597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         899 cágtcacadaaatccccccccaaagtrgatgcaacaccccctaaagtrgagaagccatcg 958
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        778 TEGGCTEGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAG 837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      corgorga Gargora Crococo Constructor Contra Gargan Contra Gargan 897
 240
                                                                GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                             361 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                             421 AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGT--AGTCCTGTAA 478
                                                                                                                                                                                                                                                                                            719 caacacrecescracrecranaceasiscacarescrarasarcrecarreas
                                                                                                                                                                                                                                                                                                                            ATTIGITIGAGGAGGAAAACTATICCAGCAICIAGAACAAGAAATAAIGIIGCIGCAA 538
                                                                                                                                                                                                                                                                                                                                                          779 Aaccenectreaccaderrerrecaageahagrigeaetageaheerreahadarareerer 838
                                                                                                                                                                                                                                                                                                                                                                                                                         839 cagecarcaccicacececaageragaacacaccaarceaaagerecrusses
                                                                                                                                                                                                                                                                                                                                                                                                                                                         598 AAAATGGAGTCTGCAGCTACTCCAGTAGAGAGAGAAAACAAGCAGTAAATGTTGCACCA 657
CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTGCTATGCTCGCTCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            658
                                479
                                                                 241
                                                                                                539
                                                                                                                              301
                                                                                                                                                             599
                                                                                                                                                                                                                             629
                                                                                                                                                                                                                                                                                                                             479
                                                                                                                                                                                                                                                                                                                                                                                              539
 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                    g
                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                             ጵ
                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                             8 6
                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                දු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6. B & B &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 8
                              g
                                                                ò 8
                                                                                                                    ठे
                                                                                                                                                                                             ઠે
```

Search completed: September 27, 2005, 06:18:03 Job time : 4465 secs

```
September 27, 2005, 02:39:09; Search time 779 Seconds (without alignments) 11033.972 Million cell updates/sec
                                                                                                                                                                                                                                                        1 atgaacgagaaagccaacgt......gaatgttcacaaaacattga 1452
                                                                                                                                                                                                                                                                                                                                                                                                           8780412
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                4390206 segs, 2959870667 residues
                                                                                    OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                  IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                            US-10-630-518-1
1452
                                                                                                                                                                                                                Title:
Perfect score:
                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                            Sequence:
                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                Run on:
```

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries Minimum DB seq length: 0 Maximum DB seq length: 2000000000

geneseqn2001bs:\* geneseqn2002as:\* geneseqn2002bs:\* 10: geneseqn2003cs:\* 11: geneseqn2003ds:\* 12: geneseqn2004as:\* 13: geneseqn2004bs:\* geneseqn1980s:\* geneseqn1990s:\* geneseqn2000s:\* geneseqn2001as:\* N\_Geneseq\_16Dec04:\* geneseqn2003as:\* geneseqn2003bs:\* **Database** :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

	Description	Aal48968 A thalian	Adn72208 Thale cre	Aac48822 Arabidops	Aal48969 A thalian	Aal48970 A thalian	Aac38070 Arabidops	Acn48712 Cotton pr	Aal48972 A thalian	Aac75657 Human ORF	Abn26360 Human ORF	Abl71943 Corn tass	Abx82114 Corn ear-	Aac56661 Eucalyptu	Abl73349 Corn tass	Abq98937 Human ORF	Aac84451 Nucleotid	Aah06694 Human cDN	Aah17887 Human cDN	Acd13426 Human DNA	Adj57942 Rat NARC
	ID	AAL48968	ADN72208	AAC48822	AAL48969	AAL48970	AAC38070	ACN48712	AAL48972	AAC75657	ABN26360	ABL71943	ABX82114	AAC56661	ABL73349	ABQ98937 .	AAC84451	AAH06694	AAH17887	ACD13426	ADJ57942
	DB	9	12	m	9	9	m	13	9	m	9	9	2	m	9	9	4	4	4	œ	12
	Query Match Length DB	1452	1452	1791	1452	1452	1794	296	5580	371	371	313	270	408	290	587	3117	799	2314	2314	1403
æ	Query Match	100.0	100.0	100.0	99.9	99.9	99.7	20.5	17.6	16.3	16.3	15.7	13.7	12.6	8.8	7.4	7.4	7.3	7.3	7.3	6.8
	Score	1452	1452	1452	1450.4	1450.4	1447.2	298.2	255.4	237.2	237.2	227.4	199.6	182.4	127.2	107.2	107.2	105.6	105.6	105.6	98.4
	Result No.		7	n	4	ហ	9	7	0	6	10	11	12	13	14	15	16	17	18	19	20

The present invention relates to a mutant plant which has decreased organ

Claim 11; Page 44-46; 67pp; English.

	Abs70464 Human bon Aai58627 Human pol		Adb48605 Novel hum	Acd13427 Human DNA	Aac76483 Human ORF	Adp55646 Human PRO	Adq97937 Human can	Aax04343 Human sec	_	_	Adq99434 DNA encod	Adb49194 Novel hum	Aai60413 Human pol	Adp22613 Sea-squir	Adq08635 Ciona int	Aac39358 Arabidops	Adg37966 Aspergill	Aac66455 Human sec	Aas02552 Human sec	Acn49796 Cotton pr	Adp22611 Sea-squir	Ach29095 Human adu
AAC84446 AAI60996	ABS70464	ADQ98845	ADB48605	ACD13427	AAC76483	L3 ADP55646	L2 ADQ97937	AAX04343	AAC02721	AA159210	ADQ99434	ADB49194	AA160413	2 ADP22613	2 ADQ08635	AAC39358	0 ADG37966	AAC66455	AAS02552	3 ACN49796	2 ADP22611	ACH29095
2561 4 667 4	1447 6	1976 5	1976 9.	457 8	2492 3	-	2874 1	2541 2	309 3	1327 4	327 5	327 9	176 4	1324 1	356 1	1274 3	507	1314 3	2545 4	555 1	775 1	398 9
2.5	2.5	ດນຄ	6.5 1	5	2	Ŋ	S	5.3	_	5.7 1	_	5.7 1	5.7 2	.6 1	3.6	3.6 1	5.5	5.5	5.5	5.5	5.5	4.0
94.8	94.2			94.2		94.2	94.2	92.2	86.2			82.6	82.6	82	82	90.6	80.4	30.4	80.4	79.4	79.2	78.6
21 5	23	7 22	26 5	27 5	28	29	30	31 5	32 6	33 6	34 6	35 6	36	37	38	39		41 8	42 6	43	44	45
																				O		

## ALIGNMENTS

NEVERSHED; ARF; GAP; GTPase activating protein domain; chromosome 5; GTP-binding protein domain; organ abscission; floral abscission; plant; gene; ds. New mutant plants comprising a modified ARF-GAP domain and having decreased organ abscission, particularly floral abscission. A thaliana NEVERSHED protein coding sequence. Location/Qualifiers
1. .1452
/\*tag= a
/product= "NEVERSHED" Yanofsky MF; (SALK ) SALK INST BIOLOGICAL STUDIES. (REGC ) UNIV CALIFORNIA. AAL48968 standard; DNA; 1452 BP. 29-JAN-2001; 2001US-0264974P. 22-JAN-2002; 2002WO-US001938 28-OCT-2002 (first entry) Liljegren SJ, Ecker JR, Arabidopsis thaliana. WPI; 2002-627475/67. P-PSDB; AAO18759. WO200261042-A2. 08-AUG-2002. AAL48968; Key RESULT 1 AAL48968 

ያ ዓ

요

8

8 8 8

ઠે

8 6 6 6

ò

g

ઠે

ò

g

ò

ያ ያ

8 6 8 6 8

8 8 8

ò

ŝ

```
1020
                                                                                           1080
                                                                                                                    1080
                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                                                                                         1380
                                                                                                                                                                                                                          1200
                                                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Altering plant characteristics, useful for producing plants for enzyme oparmaceutical production comprises modifying in a plant, expression of
GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                          CAGCAGCAACCATTAACATGGCTGCAGCGAAAGCTGGTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCCAGAAACTT
                                                                                                                                                                                                                                                                   GAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                            CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                            AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                          GGCTACCAGAATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCCAGAAACTT
                                                                                                                                                                                                                                                    ATGCAAAACATGAATATGAACGCAAACATGAACACGCGGGGCCCGCACAACGAGAAC
                                                                                                                                                                                                                                                                                                      ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                 ACTOTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SegiD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               gene; ss; plant; transgenic; B2Fa/DPa transcription
growth regulator; animal feed product; thale cress;
cell wall biosynthesis; nitrogen metabolism; carbon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Thale cress cDNA upregulated in E2Fa/Dpa expressing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 봈
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             멾
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vlieghe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             standard; cDNA; 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20-OCT-2003; 2003WO-EP011658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-OCT-2002; 2002EP-00079408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1441 ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ŗ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (CROP-) CROPDESIGN NV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 De Veylder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2004-348466/32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P-PSDB; ADN72209.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2004035798-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-JUL-2004
                                                                                                                                                                                                                      1141
                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                   1261
                                                                                            1021
                                                                                                                    1021
                                                                                                                                               1081
                                                                                                                                                                        1081
                                                                                                                                                                                                  1141
                                                                                                                                                                                                                                                     1201
                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                            1321
                                                                                                                                                                                                                                                                                                                                                                                                                1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1441
                                         196
                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                      1321
               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADN72208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADN72208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Inze D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADN72208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6 B
                                                            8 6 8
                                                                                                                                            $ B $
                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                      8 S
                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                   .
0
                                                                                                                                                                                                               120
                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCTAATITAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT 960
abscission, comprising a nucleotide sequence having a modified ARF GAP domain. The mutant plant is useful as a source of plants or progenies having reduced or decreased floral abscission. The present sequence is the Arabidopsis thaliana NEVENSHED protein coding sequence, which can be mutated in plants of the invention
                                                                                                                                                             9
                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                         GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                      CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                   CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGITIGAGGAGAGAAACTATICCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCAGTAAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA
                                                                                                                                                                                                                              GGGCTTCTTAAACATCCGGGGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                   TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGGT
                                                                                                                                                                                                                                                                                                                                                                           GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       cccccaaactatgatagagtrggaatrgagaatrtrtrtratacgrgcaaagtatgaagagaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCGACTACAAATACCTCAGAGGAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAAATTGTCACAGCCAAGCCT
                                                                                                                                                             ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                   Gaps
                                                                                                                                   .;
0
                                                                                                          6; Length 1452;
                                                                                Sequence 1452 BP; 461 A; 333 C; 329 G; 329 T; 0 U; 0 Other;
                                                                                                                                   0; Indels
                                                                                                          DB
                                                                                                                                 0; Mismatches
                                                                                                      100.0%; Score 1452;
100.0%; Pred. No. 0;
                                                                                                       Query Match
Best Local Similarity 100.
Matches 1452; Conservative
                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              661
                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
```

```
ATGCAAAACATGAATATGAACGCAAACATGAACACGAGACCCGCACCAACAGAGAAC 1260
601 ATGGAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCA 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hybridisation assay; genetic mapping; gene expression control; protein identification; signal transduction pathway; metabolic pathway; promoter; termination sequence; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1141 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAAGTGTCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                  TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                    GCTGGCTTTCAGTCTGCTGGAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                    GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCGCAAGCCT
                                                                                                                                                                                                                                      GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTAAAGGACACA
                                                                                                                                                                                                                                                                                                          CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                             GAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana DNA fragment SEQ ID NO: 58899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAC48822 standard; DNA; 1791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1441
                                                                    661
                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261
                                   661
                                                                                                      721
                                                                                                                                                                        781
                                                                                                                                                                                                        781
                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                              901
                                                                                                                                                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                  961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                  ò
                                                                    g
                                                                                                                                g
                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                              쉽
                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                              This invention relates to a novel method for altering one or more plant characteristics. Specifically, it refers to identifying genes that are up characteristics. Specifically, it refers to identifying genes that are up communication transpension factor of Arabidopsis and using these sequences to alter plant characteristics accordingly. The present invention describes generating transpent plants for the production of growth regulators, carymes, therapeutics, pharmaccuticals and animal feed products, where the altered plant characteristics are selected from increased yield or biomass, enhanced survival capacity, stress tolerance, plant architecture or physiology, altered endoreduplication, biochemistry, signal architecture or physiology, altered endoreduplication, biochemistry, signal architecture or physiology, altered endoreduplication, biochemistry, signal architecture or nasources can also be useful as positive or negative selectable markers during transformation of cells or tissues. The identified genes play a cole in a variety of biological processes such as DNA replication, cell wall biosynthesis, nitrogen and/ or cathon metabolism or they function as transcription factors. This polymucleotide sequence is thale cress cDNA upregulated 1.3 fold or more in plants overexpressing the E2Fa/DPa transcription factor, given in an exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 GTTGCATTTATACAGTCAATGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGTTTGAGGAGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGTTTGAGGAGAAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUGGACTCTCCACTACTCCACTACAGAGGAGAAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGCTTCTTAAACATCCAGAGAACAGGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
     one
     more nucleic acids and/or modifying level or activity of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 1452; DB 12; Length 1452; 100.0%; Pred. No. 0; tive 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1452 BP; 461 A; 333 C; 329 G; 329 T; 0 U; 0 Other;
                                                       Claim 1; SEQ ID NO 103; 134pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best_Local Similarity 100.
Matches 1452; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
          ö
        one on
```

ઠ 셤 Š 셤 8 ద ઠે 셤 8 g ઠે g ઠે ద Ś 임 ઠે 원 ઠે 셤 ò

1020 1080

1080

1020

960 960

840

840 900

720 780 780 1140 1200

1200

```
9905-0141287P

9905-0141842P

9905-0142054P

9905-0142304P

9905-0142304P

9905-0143242P

9905-0143242P

9905-0143242P

9905-0143242P

9905-01443334P

9905-0144334P

9905-0144334P

9905-0144334P

9905-01443334P

9905-0144334P

9905-0144933P

9905-0144933P

9905-0144933P

9905-014933P

9905-015933P

9905-015933P

9905-015933P
              01-70L-1999

02-70L-1999

08-70L-1999

12-70L-1999

13-70L-1999

14-70L-1999

15-70L-1999

16-70L-1999

16-70L-1999

16-70L-1999

16-70L-1999

19-70L-1999

19-70L-1999

19-70L-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-AUG-1999;
27-AUG-1999;
27-AUG-1999;
30-AUG-1999;
31-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                       20-AUG-1999;
20-AUG-1999;
20-AUG-1999;
23-AUG-1999;
25-AUG-1999;
26-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-SEP-1999;
10-SEP-1999;
13-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                      06-AUG-1999;
09-AUG-1999;
09-AUG-1999;
10-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                   13-AUG-1999;
13-AUG-1999;
16-AUG-1999;
                                                                                                                                                                                                                                                                                  2-AUG-1999;
2-AUG-1999;
2-AUG-1999;
                                                                                                                                                                                                                                                                                                          03-AUG-1999;
04-AUG-1999;
04-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                          17-AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                     -AUG-1999
                                                                                                                                                                                                                                                                                                                                                                                           12-AUG-1999
 99US-0121825P

99US-0123180P

99US-012548P

99US-012564P

99US-012564P

99US-012564P

99US-012648P

99US-0127462P

99US-0128234P

99US-013049P

99US-013249P

99US-013249P

99US-013249P

99US-013248P

99US-013421P

99US-013428P

99US-013428P

99US-013428P

99US-01348P

99US-01348P

99US-013942P

99US-013945P

99US-013945P

99US-013945P

99US-013945P

99US-013945P

99US-013945P

99US-013945P

99US-0139463P

99US-0139463P

99US-0139463P

99US-0139463P

99US-0139463P

99US-013965P

99US-013965P
                                             2000EP-00301439
 Arabidopsis thaliana
                                             25-FEB-2000;
                                                           25-FEB-1999;
05-MAR-1999;
23-MAR-1999;
25-MAR-1999;
26-MAR-1999;
01-APR-1999;
06-APR-1999;
06-APR-1999;
19-APR-1999;
23-APR-1999;
23-APR-1999;
23-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            24-JUN-1999;
28-JUN-1999;
29-JUN-1999;
                                                                                                                                                                                                                                                              -MAY-1999;
-MAY-1999;
-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                      10-JUN-1999;
10-JUN-1999;
14-JUN-1999;
                EP1033405-A2
                               06-SEP-2000
                                                                                                                                                                                           04-MAY-1999
05-MAY-1999
                                                                                                                                                                                                                                                                                                                                                                                             16-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                   -JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                             -JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                            18-JUN-1999
                                                                                                                                                                                                                                                                                                                                  -JUN-1
                                                                                                                                                                                                                                                        -MAY-
```

Db 524 AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGGAGGAACGGCGG 583  Qy 421 AAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT 480	Oy 481 TTGTTTGAGGAAAACTATTCCAGCATCTAGAACAAGAATAATGTTGCTGCAACG 540		OY 661 TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT 720	OY 721 TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCTTGG 780	OY 781 GCTGGCTTTCAGTCTGGTGAAATGGTCAAACGCCAGAAAATTGTCACAGCCAAGCCT 840	OY 841 GCTGAGAGCACTTCTCCTCCAGCTTCTTCTGACTTTGAGGATTTGTTTAAGGACACA 900	OY 901 CCTAATTTAACAACTCAAAGACACCAAAAGATGTGAAAGGGGATATCATGAGCCTGTTT 960	OY 961 GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAAGGTTGCTATGCTGCT 1020	1021 CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG	1081 AATCAACAAGCTATTGCTAATGCTCTTAAGGTAGGTTCTGCAAATTGGTCAAACCCGGGCTGTGTGTG	GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGATCTCCAGATGTTTTTTTT		1261 ACTCTACAATACCCATCACCGTTTCTACACAATGGGTCAAGCTAATCAACTGAACGGT		Qy 1381 ACACCATCTTCACAATCAGGCAAAGACTTTGATTTCTCTTCCTTGATGGATG	Oy 1441 ACAAACATTGA 1452             
15-SEP-1999; 99UJ 16-SEP-1999; 99UJ 20-SEP-1999; 99UJ 23-SEP-1999; 99UJ	PR 24-SEP-1999; 99US-0155659P. PR 28-SEP-1999; 99US-0156458P. PR 04-OCT-1999; 99US-0157117P. PR 05-OCT-1999; 99US-0157753P. PR 06-OCT-1999; 99US-0157753P. PR 06-OCT-1999; 99US-0157753P. PR 06-OCT-1999; 99US-0157753P. PR 07-OCT-1999; 99US-0158023P.	12-OCT-1999; 99U 13-OCT-1999; 99U 13-OCT-1999; 99U 13-OCT-1999; 99U	14-OCT-1999; 99U6 14-OCT-1999; 99U6 14-OCT-1999; 99U6 14-OCT-1999; 99U6	14-OCT-1999; 99U 18-OCT-1999; 99U 21-OCT-1999; 99U 21-OCT-1999; 99U	21-OCT-1999; 99U 21-OCT-1999; 99U 21-OCT-1999; 99U 21-OCT-1999; 99U	22-OCT-1999; 99U; 22-OCT-1999; 99U; 22-OCT-1999; 99U; 25-OCT-1999; 99U;	25-OCT-1999; 99U; 25-OCT-1999; 99U; 26-OCT-1999; 99U; 26-OCT-1999; 99U;	26-OCT-1999; 99U 28-OCT-1999; 99U 28-OCT-1999; 99U 28-OCT-1999; 99U	29-OCT-1999; 99U; Juery Match Sest Local Similarity Aatches 1452; Conser	1 ATGARGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCGCCATAGAAAGATTC 164 ATGAAGGAGCCAAGGAGCTTCTCTAAGGAGCTTAATGCCCGCCATAGAAGATTC	61 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA 	121 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT		241 GITGCATITATACAGICAATGGGAAATGAIAAAGCAAATAGITACIGGGAAGC	404 GITGCANITANACAGICAANGGAAANGGAAANGCAAANGAGIAAGICAGGAAAGGAA	AGAGTCGAGCAGGACGGCGG

Ø

```
GTTGCATTTATACAGTCAATGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1261
                                                                                                                                                                                                                                                                                                                                                                                    541
                                                                                                                                                                                                                                                                                                                                                                                                                                                         601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1201
                                                                                                      301
                                                                                                                                       361
                                                                                                                                                                       361
                                                                                                                                                                                                          421
                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1141
                                                                   301
                                                                                                                                                                                                                                                                              481
                                                                                                                                                                                                                                                                                                                                                 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             961
                       요
                                                                                             a
                                                                                                                                                                    g
                                                                                                                                                                                                          8
                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                 ò
                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention relates to a mutant plant which has decreased organ abscission, comprising a nucleotide sequence having a modified ARF GAP domain. The mutant plant is useful as a source of plants or progenies having reduced or decreased floral abscission. The present sequence is the Arabidopsis thaliana NEVERSHED protein mutant coding sequence nev-1, which can be used in plants of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                          NEVERSHED; ARF; GAP; GTPase activating protein domain; chromosome 5; GTP-binding protein domain; organ abscission; floral abscission; plant; mutant; nev-1; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGGCTAGTGTTAATTTAGGTATCTTTATCTACATGCAATGTTCTGGGATTCACAGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAACGAGAAAGCCACTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domain and having abscission.
                                                                                                                                                         protein coding sequence mutant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6; Length 1452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1452 BP; 462 A; 333 C; 328 G; 329 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New mutant plants comprising a modified ARF-GAP decreased organ abscission, particularly floral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 1450.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yanofsky MF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INST BIOLOGICAL STUDIES CALIFORNIA.
                                                                                                                                                                                                                                                                                                           Location/Qualifiers
1. .1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 6; Page 48-50; 67pp; English
                                                                                                                                                         A thaliana EMS mutated NEVERSHED
                                                    BP.
                                                    standard; DNA; 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22-JAN-2002; 2002WO-US001938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-JAN-2001; 2001US-0264974P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.9<del>8</del>;
                                                                                                                                                                                                                                                                                                                                                   /*tag= a
/product=
                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Liljegren SJ, Ecker JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 1451; Conservative
                                                                                                                                                                                                                                                           Arabidopsis thaliana
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-627475/67.
P-PSDB; AA018760.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                        WO200261042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SALK
                                                                                                                      28-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                           08-AUG-2002
                                                    AAL48969
                                                                                     AAL48969;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SALK ) (REGC ) 1
                RESULT 4
ALL48969
ALL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

1020 1020 1080 1080 1140 1200 1200 1260 1320 1320 360 360 420 420 480 600 660 720 780 900 960 960 300 480 540 540 600 99 720 780 840 840 900 CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAAG 241 GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG GAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCCACTCCAAACGGCGTG TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAA ATGGAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCA TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAAATTGTCACAGCCAAGCCT GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT

180

120 120 240 240 300

300

셤 ઠે g ઠે 셤

```
1141 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT 1200
                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGGAG
                                                                                                                                                                         CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGGCTTTCAGTCTGCTGGTCAAACGGCAGAAAATTGTCACAGCCAAGCCT
                   GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                  CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                    TTGTTTGAGGAGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      841 GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGGC
                                                                                               TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGAGT
                                                                                                                                                                                                                             GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                        CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAATCTGTGGAGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGAGTCTGCAGCTACTCCAGTAGAGAGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                         TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                   61
                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1081
                                                                                                                                                     181
                                                                                                                                                                                           181
                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1021
                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
     61
                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                               셤
                                                                         8 6
                                                                                                                                         8
                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                            ે
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                             1440
 The present invention relates to a mutant plant which has decreased organ abscission, comprising a nucleotide sequence having a modified ARF GAP domain. The mutant plant is useful as a source of plants or progenies having reduced or decreased floral abscission. The present sequence is the Arabidopsis thallana NEVERSHED protein mutant coding sequence nev-2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                            мьчыкыный, ARF; GAP; GTPase activating protein domain; chromosome 5; GTP-binding protein domain; organ abscission; floral abscission; plant; mutant; nev-2; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGAACGAGAAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                             A thaliana EMS mutated NEVERSHED protein coding sequence mutant nev-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    New mutant plants comprising a modified ARF-GAP domain and having decreased organ abscission, particularly floral abscission.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 1452 BP; 461 A; 332 C; 329 G; 330 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     which can be used in plants of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1450.4;
Pred. No. 0;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Yanofsky MF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INST BIOLOGICAL STUDIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
1. .594
/*tag= a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6; Page 52-53; 67pp; English.
                                                                                                                                                                                                                                                                                          ВР
                                                                                                                                                                                                                                                                                            DNA; 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2002WO-US001938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               29-JAN-2001; 2001US-0264974P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match
Best Local Similarity 99.9%;
Matches 1451; Conservative
                                                                                                                                                         1452
                                                                                                                                                                             entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /product=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Liljegren SJ, Ecker JR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CALIFORNIA
                                                                                                                                                         ACAAAACATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-627475/67.
                                                                                                                                                                                                                                                                                            AAL48970 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P-PSDB; AA018761.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200261042-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (SALK ) SALK
(REGC ) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-JAN-2002;
                                                                                                                                                                                                                                                                                                                                                                      28-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Synthetic
                                       1321
                                                                             1381
                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                AAL48970;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim
                                                                                                                                                                                                                                                     RESULT 5
AAL48970
ID AAL48970
```

540

540 900 600 99 999 720 720 780 780

420 420 480 480

360

1020 1020 1080 1080 1140 1140

> ઠે 셤

096 960

900

œ

셤 ò 셤 ઠે 셤 ઠે 8 S a ò g

```
9905-0134768P.
9905-013452P.
9905-0135353P.
9905-0135353P.
9905-0136392P.
9905-0136392P.
9905-0137528P.
9905-0137528P.
9905-0137528P.
9905-0137528P.
9905-0137528P.
9905-0137528P.
9905-0139453P.
9905-0139453P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139458P.
9905-0139461P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99US-0140695P.
99US-0140823P.
99US-0141287P.
99US-0141284P.
99US-0142054P.
99US-014205P.
99US-014203P.
99US-014234P.
99US-0143642P.
99US-0143642P.
99US-0144086P.
99US-0144086P.
99US-0144325P.
99US-0144328P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9905-01443349-9905-01443359-9905-01446329-9905-01448849-9905-01468849-9905-01450869-9905-01450899-9905-0145089-9905-0145089-9905-0145089-9905-0145089-9905-0145089-9905-0145089-9905-01451459-9905-014521859-9905-014521859-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-0145276P.
99US-0145913P.
99US-0145918P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0140354P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0145224P
              19-MAY-1999;
20-MAY-1999;
24-MAY-1999;
24-MAY-1999;
25-MAY-1999;
28-MAY-1999;
01-JUN-1999;
04-JUN-1999;
07-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-JUL-1999;
20-JUL-1999;
20-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-JUL-1999;
22-JUL-1999;
22-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-JUL-1999;
27-JUL-1999;
                                                                                                                                                                                                                                                                    18-JUN-1999;
                                                                                                                                                                    08-NUT-01
                                                                                                                                                                                                  10-JUN-1999;
                                                                                                                                                                                                            14-JUN-1999
                                                                                                                                                                                                                                                                                                 18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                         18-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                     18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                          21-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   23-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-JUL-1999;
                                                                                                                                                                                                                                         16-JUN-1999
                                                                                                                                                                                                                                                                                                                             18-JUN-1999
                                                                                                                                                                                                                                                                                                                                         18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                 18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                             18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21-JUL-1999
21-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-JUL-1999
                                                                                                                                                                                                                                                        17-JUN-1999
                                                                                                                                                                                                                                                                                                                18-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                18-JUN-1999
  1141 GGCTACCAGATCCCCGGAATGACTAACCCGGTAGGTGGTCAAGCTGATCTCCAGAAACTT 1200
                                                                      1260
                                                                                                 1320
                                                                                                                             1320
                                                                                                                                                         1380
                                                                                                                                                                                   1380
                                                                                                                                                                                                               1440
                                                                                                                                                                                                                                           1440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hybridisation assay, genetic mapping, gene expression control, protein identification; signal transduction pathway, metabolic pathway, promoter, termination sequence; ss.
                                                         1201 ATGCAAAACATGAATATGAACGCAAACATGAACACGAGACGCGCACGACGCACCGCAAGAACC
                                                                                                                                                       ATGCAAAACATGAATATGAACGCAAACATGAACACGGGACCCGCACAACCGCAAGAGAAC
                                                                                                               ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAAGGTC
                                                                                                 1261 ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arabidopsis thaliana DNA fragment SEQ ID NO: 19684
                                                                                                                                                                                                                                                                                                                                                                        AAC38070 standard; DNA; 1794 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9905-0123180P
9905-0123548P
9905-0126788P
9905-0126785P
9905-0128714P
9905-0128714P
9905-0128714P
9905-0138714P
9905-0138714P
9905-0130449P
9905-0130449P
9905-0130449P
9905-0131449P
9905-013248PP
9905-013248PP
9905-013248PP
9905-013248PP
9905-013248PP
9905-013248PP
9905-013248PP
9905-013248PP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              25-FEB-2000; 2000EP-00301439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-0121825P
                                                                                                                                                                                                                                                                     1441 ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-FBB-1999;
05-MAR-1999;
09-MAR-1999;
23-MAR-1999;
25-MAR-1999;
06-APR-1999;
06-APR-1999;
16-APR-1999;
16-APR-1999;
16-APR-1999;
16-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23-APR-1999;
23-APR-1999;
28-APR-1999;
30-APR-1999;
30-APR-1999;
05-MAY-1999;
06-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-MAY-1999;
14-MAY-1999;
14-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                             17-0CT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EP1033405-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-MAY-1999,
07-MAY-1999,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  06-SEP-2000
                                          1201
                                                                                                                              1261
                                                                                                                                                         1321
                                                                                                                                                                                   1321
                                                                                                                                                                                                                                                                                                                                                                                                   AAC38070;
                                                                                                                                                                                                                                                                                                                                           RESULT 6
ID AAC38070
XX
XX
AAC3 AAC3
XX
AAC3 AAC3
XX
DT 17-C
DE Arab
XXX
Hybr
XXX
BP10
XX
XX
BP10
SPR 05-F
PR 09-F
PR 09-F
PR 25-F
PR 09-F
PR 09-F
PR 25-F
PR 25-F
PR 25-F
PR 25-F
PR 25-F
PR 25-F
PR 09-F
PR 19-1
PP 09-F
PP
```

σ

ö

Gaps

ö

3; Indels 3; В

Mismatches

.,

Length 1794;

99.7%; Score 1447.2; 99.8%; Pred. No. 0;

Query Match
Best Local Similarity 99.8
Matches 1449; Conservative

Н

167 61 227

à

99US-0161359P. 99US-0161360P. 99US-0161320P. 99US-0161922P. 99US-0161932P. 99US-0161932P.

26-0CT-1999; 26-0CT-1999; 26-0CT-1999; 28-0CT-1999; 28-0CT-1999; 29-0CT-1999;

226

GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA

287

121

8 셤 181 347 241 407 301 467 361

8 6 ઠે ď 8

CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACACATGGCTCCCCGAGCAG

9

286 180 346 240

300

GIIGCAITTAIACAGICAAIGGGAAAIGAIAAAGCAAAIAGITACIGGGAAGCAGAGCIA

CCCCCAAACTATGATAGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG 

466

406

360

526

420

586

TIGITITGAGGAGAGAAACTATICCAGCATCTAGAACAAGAAATAATGTIGCTGCAACG 

587

පි පි

527 421

셤

Š

원 상

647

g

481

707

8 8

541

AAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT

480 646 540 706

```
9905-0148341P

9905-0148565P

9905-0149168P

9905-0149175P

9905-0149722P

9905-0149923P

9905-0149923P

9905-0149923P

9905-0149923P

9905-0151066P

9905-0151066P

9905-0151066P

9905-0151066P

9905-0151080P

9905-0159295P

9905-0159295P

9905-0159295P

9905-0159295P

9905-0159295P

9905-0159293P

9905-0159293P

9905-0159293P

9905-0159293P

9905-0159294P

9905-0160768P

9905-0160980P

9905-0160980P

9905-0160980P

9905-0160980P
99US-0145919P.
99US-0145951P.
99US-0146386P.
99US-0146389P.
99US-0147038P.
99US-0147204P.
99US-0147204P.
99US-0147303P.
99US-0147303P.
99US-0147303P.
                                                                                                                                                                                                                                                                                                                                                               27 - JUL - 1999

28 - JUL - 1999

28 - JUL - 1999

02 - AUG - 1999

03 - AUG - 1999

04 - AUG - 1999

05 - AUG - 1999

06 - AUG - 1999

07 - AUG - 1999

10 - AUG - 1999

11 - AUG - 1999

12 - AUG - 1999

13 - AUG - 1999

13 - AUG - 1999

14 - AUG - 1999

15 - AUG - 1999

16 - AUG - 1999

17 - AUG - 1999

18 - AUG - 1999

18 - AUG - 1999

20 - AUG - 1999

21 - AUG - 1999

22 - AUG - 1999

22 - AUG - 1999

23 - AUG - 1999

25 - AUG - 1999

26 - AUG - 1999

27 - AUG - 1999
                                                                                                                                                                                                                                                        27-AUG-1999;
30-AUG-1999;
31-AUG-1999;
01-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-OCT-1999;
25-OCT-1999;
25-OCT-1999;
                                                                                                                                                                                                                                                                                        -SEP-1999;
-SEP-1999;
-SEP-1999;
                                                                                                                                                                                                                                                                                                                -SEP-1999;
                                                                                                                                                                                                                                                                                                                                -SEP-1999;
```

947

셤

841 1001 901

ò

셤

ð

781

à

887

g

721

ò

827

g

199

Š

CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT

946

9

994 99 826 720 886 780

167

a

601

ઠે

TCACATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT  1066

960

```
1140
                                                                                                                                                                                                                   1260
                                                                                                                                                                                                                                                                                                                                                        1440
             1126
                                                                                                                                               1306
                                                                                                                                                                                             1366
                                                                                                                                                                                                                                                               1320
                                                                                                                                                                                                                                                                                      1486
                                                                                                                                                                                                                                                                                                           1380
                                                                                                                                                                                                                                                                                                                                 1546
                                                                                                                                                                        1200
                                                                                                                                                                                                                                                                                                                                                                           1187 CAGCAGCAACCATTACATGCTGCAGCAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                          1021 CAGCAGCAAGCCCTTTACATGGCTGCAAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                           AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                        1141 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCCAGAAACTT
                                                                                                                                                                                  1307 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGAGGTGAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                   1201 ATGCAAAACATGAATATGAACGCAAACATGAACACGAGACCCGCACCAACCGCAAGAGAAC
                                                                                                                                                                                                                                1367 ATGCAAAACATGAATATGAACGCAAACATGAACACGAGACCCGCACAACCGCAAGAGAAC
                                                                                                                                                                                                                                                               1261 ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                          Cotton; plant; EST; expressed sequence tag; transgenic plant; seed; variety DP50B; library LIB3825; molecular tag; molecular marker; genetic mapping; molecular mapping; seed germination; plant growth; plant quality; plant yield; plant breeding; tissue printing; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cotton primed seed EST Clone ID: LIB3825-026-Q6-K6-H9, SEQ:3493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fincher KL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACN48712 standard; cDNA; 596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-DEC-2001; 2001US-00021323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-DEC-2000; 2000US-0255619P
                                                                                                                                                                                                                                                                                                                                                                                                    1441 ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                         1607 ACAAAACATTGA 1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Deikman J, Feng PCC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (DEIK/) DEIKMAN J.
(FENG/) FENG P C C.
(FINC/) FINCHER K L.
(ZIEG/) ZIEGLER T E.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2004-479808/45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gossypium hirsutum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US2004123340-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-JUN-2004.
                                                                                                                                               1247
                                                                                                                                                                                                                                                                                      1427
                                                                                                                                                                                                                                                                                                                                 1487
             1067
                                                                                                                           1081
                                                                                                                                                                                                                                                                                                            1321
                                   961
                                                                                                                                                                                                                                                                                                                                                        1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACN48712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                     엄
                                                                            ò
                                                                                              셤
                                                                                                                           ሯ
                                                                                                                                              셤
                                                                                                                                                                    ઠે
                                                                                                                                                                                         g
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                   g
```

```
The invention relates to 17880 cotton expressed sequence tags (ESTS;
ACM4520-ACM63099). The ESTs were isolated from cDNA libraries generated
from primed or non-primed seeds from variety DPSOB, mature seeds from
variety Coker 312 Boswell 96 Field, and androecium tissue, gynoecium
variety Coker 312 Boswell 96 Field, and androecium tissue, gynoecium
tissue, developing fibres, carpel walls and septa from variety
Nucotton3B. The invention also relates to substantially purified
proteins or their fragments encoded by nucleic acid molecules of the
invention, and to transformed plants having a nucleic acid construct
comprising a nucleic acid of the invention. The cotton ESTS are useful as
molecular tags to isolate genetic regions, to isolate genes, to map
genes, to determine gene function and to determining whether genes are
comprising a variety of agronomically significant genes
molecular tags to isolate genetic regions, to isolate genes are
coused for isolating a variety of agronomically significant genes
associated with plant growth, quality, yield, and could also serve as
links in metabolic and catabolic pathways. The nucleic acid molecules
could seed germination or that may be used to mitigate stresses encountered
during seed germination or the ESTS additionally enable the acquisition of
promoters and cis-regulatory elements which will be useful to express
conducted germination of molecular mapping, and in cloning of agronomically
significant genes in these tissues and/or other tissues,
and also permits the acquisition of molecular markers useful for
conducting the expression level or pattern of a protein or mRNA and for
detecting the presence or quantity of a protein by tissue printing. The
present sequence represents a specifically claimed EST isolated from a
cotton variety DPSOB primed seed cDNA library (ILB3825). The sequence
cotton variety DPSOB primed seed cDNA library (ILB3825). The sequence
continuation or production form pat of the printed specification, branch or present sequence or quantity of the printe
                      New isolated nucleic acid molecule that encodes a plant protein or its fragment, useful for isolating a variety of agronomically significant genes associated with plant growth, quality or yield, and as molecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     seqdata.uspto.gov/sequence.html?DocID=US20040123340
                                                                                                                                                                           Claim 1; SEQ ID NO 3493; 34pp; English
                                                                                                                           to map genes.
                                                                                                                    tags
```

Gaps ö 20.5%; Score 298.2; DB 13; Length 596; 84.2%; Pred. No. 4.4e-80; Sequence 596 BP; 173 A; 127 C; 141 G; 154 T; 0 U; 1 Other; 63; Indels 0; Mismatches Query Match
Best Local Similarity 84.2
Matches 336; Conservative

ö

120 240 300 257 317 180 377 437 497 9 CTTGGGGTACACATATCGAAGGTTCGATCTGCTACACTAGACACATGGCTTCCTGAGCAG 61 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA 318 TGGGCAAGTGTGAATTTAGGTATCTTTATATGCATGCAATGTTCTGGGATCCACAGAGT CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG GITGCTTTTTATTCAATCAATGGGGAATGAAAAGGCAAACAGTTACTGGGAAGCTGAGTTA CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAAG 1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA 198 ATGAACGAGAAGGCCAGCGTTACCAAGGAGCTCAACGCCAGACACCGAAAGATTATTGAA 121 TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 378 301 181 241 438 셤 g 셤 a ò g ò ð Š ઠ 8

557

AGATGGGTTCCTAGAGATGGAAAATCCAAATCACCATCT 596 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCT 399

558

498

쉽

Š

943

964 883 964 823 964

920

860

```
TCAGCAACAGGTTGCTATGCTCGCTCAGCAAGCCCTTTACATGGCTGCAGCGAAAGC 1055
                                                                                                                                                                                                                                                                                                                                                       TGCTGGAGGCACTCCAAACGGCGTGAATCAACAAGCTATTGCTAATGCTCTTAACGTAGC 1115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AACCGCAAGAGAACACTCTACAATACCCATCATC------1280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     462 AAGATCAATATTACCATTGACCAAAGTTCTTGCAAAATTCTCACTAATTCTTGCTCTG 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    402 TTACATCGCCATAATTTTAGAACATGAATATGAACGCAACATGAACACGAGACCCGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATGATCTTTGGTTGTTATTAATAATGCAGTTTCTACACAATGGGTCAAGCTAATGAAGT
                                                                                                TTCTGCAAATTGGTCAAACCCCGGCGGCTACCAGATCCCCGGAATGACTAACCCCGGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   942 AATTATATACGCTTCTCAGATTTCACTGCTTTGTTGATATTCAGCTTTCCAAGTTTCGTT
                                                                                                                                                                                                                                        822 TATCACTTACTATGATTTCTTCAACACGGGACATTTGGAACACCCAGAGCAGATTCAAGTG
                                                                                                                                                                                                                                                                             AGCTTCATCTTCTGACTTTTGAGGATTTTGATTTAAGGACACACCTAATTTAACAACTCAACA
                                                                                  AGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGAGA-------
                                                                                                                                                                                                                                                                  -------GACGAATATAGTATCGCCTTTTGCCATGCA
                                                                                                                                                                                              882 ITTGTATCATTATTTAACTTTACAATTATAGGGAATGATATGATTTGTGTTTTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGGTCAAGCTGATCTCCAGAAACTTATGCAA------
                                                                                     921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1374
                                                                                                                                                                                                                                                                                                                                                                                                       1116
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1314
                                                               1062
                                                                                                          1002
                                                                                                                                                                                                                                                                                                                                      702
                                                                                                                                                                                                                                                                                                                                                            1056
                                                                                                                                                                                                                                                                                                                                                                                 642
                                                                                                                                                                                                                                                                                                                                                                                                                              582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             102
                                                                                                                                 965
                                                                                                                                                                            965
                                          861
                                                                                                                                                                                           8 6 8
                                                                                                                                                                                                                                                                දු පු
                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                   g
                                                                                                                              8 8 8
                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
            셤
                                       8
8
                                                                             ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AACAAGCAGTAAATGTTGCACCAGCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATC 1363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1182 CTTTTGAAAATGCTTTGGAGTAATAGATTAATTTCTGAATCCTAAAACTGTAGCTGCTGG 1123
                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to a mutant plant which has decreased organ abscission, comprising a nucleotide sequence having a modified ARF GAP domain. The mutant plant is useful as a source of plants or progenies having reduced or decreased floral abscission. The present sequence is the Arabidopsis thaliana NEVERSHED protein coding sequence, which can be mutated in plants of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  694
                                                                                                           NEVERSHED; ARF; GAP; GTPase activating protein domain; chromosome 5; GTP-binding protein domain; organ abscission; floral abscission; plant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AACAAGCAGTAAATGTTGCACCAGCATCAGATCCTCCAAAGGGGGATTTTGCTACTGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGTTTAACATGCTATCAATGGATGATTCGACTACAAATACCTCAGAGGCAACTCCTGGCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTCAGGTTATAAAGCCACAGCAGAAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1242 GATAATCTAACATCGTGGCACATTTTTCCTATCCTTGTTAACTTTATGTCAATTGTTCTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                New mutant plants comprising a modified ARF-GAP domain and having decreased organ abscission, particularly floral abscission.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         / Match 17.6%; Score 255.4; DB 6; Length 5580; Local Similarity 60.1%; Pred. No. 1.8e-66; nes 877; Conservative 0; Mismatches 1; Indels 581;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 5580 BP; 1821 A; 1010 C; 1034 G; 1715 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATACTCCTGCCGATGATAACTCATGGGCTGGCTTTCAGT-----
                                                                                                                                                                                                                                                                                                        Yanofsky MF
                                                                                                                                                                                                                                                                                                                                                                                     Example 2; Page 54-56; 67pp; English.
                                                                                                                                                                                                                                                                   (SALK ) SALK INST BIOLOGICAL STUDIES. (REGC ) UNIV CALIFORNIA.
                                                                                      thaliana NEVERSHED protein gene
                       DNA; 5580
                                                                                                                                                                                                                          22-JAN-2002; 2002WO-US001938
                                                                                                                                                                                                                                               29-JAN-2001; 2001US-0264974P
                                                                (first entry)
                                                                                                                                                                                                                                                                                                        Liljegren SJ, Ecker JR,
                                                                                                                                                        Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                             WPI; 2002-627475/67
            972/c
AAL48972 standard;
                                                                                                                                                                             WO200261042-A2
                                                                28-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 695
                                                                                                                                    ₫B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         794
                                             AAL48972
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Loca
Matches
                                                                                                                                    gene;
```

1175

523

583

643

763

703

1206

1206

343

ઠ g ठ 셤 8 ď 8 원 8 윰 ઠે 셤

463

1313

163

1433

Š 셤

```
Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shimkets RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            06-DEC-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABN26360;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        334
                                                                                                                                                         Query Match
Best Local &
                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABN26360
SKSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACTA446 to AAC77606 encode the proteins given in AAB40237 to AAB43397, which represent the human ORFX open reading frames 1 to 3161. The ORFX sequences have activities such as: cytostatic; hepatotropic; vulnerary; antipsoriatic; antiparkinsonian; nootropic; neuroprotective; osteopathic; anticonvulsant; antiarthrito; immunosuppressant; immunostimulant; cardiant; thrombolytic; coaqulant; vasotropic; antidiabetic; hypotensive; dermatological, immunosuppressive; antibicaterial; antiviral; antifungal; antitheumatic; antithyroid; and antianaemic. The sequences can be used for determining the presence of or predisposition to, or preventing or treating pathological conditions associated with an ORFX-associated disorder. The nucleic acids can be used to express ORFX proteins in gene therapy vectors. The proteins and nucleic acids may be used to treat cancers, proliferative disorders, neurodegenerative disorders, osteoarthritis, graft ve host disease, cardiovascular disease, diabetes mellitus, hypertension, hypothyroidism, cholesterol ester storage, systemic lupus erythematosus, severe combined immunodeficiency (SCID), AIDS, viral, bacterial or fungal infection, malaria, autoimmune
                                                                                                                                                                                                                                                                                                                                                                                          Human; open reading frame; ORFX; detection; cytostatic; hepatotropic; vulnerary; antipsoriatic; antiparkinsonian; noctropic; neuroprotective; anticonvulsant; osteopathic; antiarthritic; immunosuppressant; cardiant; immunostimulant; thrombolytic; coagulant; vasctropic; antidiabetic; hypotensive; dermatological; immunosuppressive; antinflammatory; antianaemic; gene therapy; cancer; proliferative disorder; hypertension; antianaemic; gene therapy; cancer; proliferative disorder; hypertension; neurodegenerative disorder; osteoarthritis; graft vs host disease; cardiovascular disease; diabetes mellitus; hypothyroidism; SCID; AIDS; cholesterol ester storage; systemic lupus erythematosus; infection; seever combined immunodeficiency; malaria; autoimmune disorder; asthma; allergy; aplastic anaemia; nocturnal haemoglobinuria; burn; wound; bone damage; cartilage damage; antiinflammatory disease; coagulation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel nucleic acids and peptides derived from open reading frame useful for treating e.g. cancers, proliferative disorders, neurodegenerative disorders and cardiovascular disease.
                                                                                                                                                                                                                                                                                                                                                Human ORFX ORF1212 polynucleotide sequence SEQ ID NO:2423.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 5; Page 1753-1754; 5507pp; English.
1434 AATGTTCACAAAACATTGA 1452
                                 42 AATGTTCACAAAACATTGA 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         thrombosis; contraceptive; ss
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 31-MAR-1999; 99US-0127607P.
02-APR-1999; 99US-0127636P.
05-APR-1999; 99US-0127728P.
05-MAR-2000; 2000US-00540763.
                                                                                                                                                                                  AAC75657 standard; cDNA; 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-MAR-2000; 2000WO-US008621
                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Leach M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-602362/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P-PSDB; AAB41448,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200058473-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Shimkets RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-OCT-2000.
                                                                                                                                                                                                                                                                                            08-FEB-2001
                                                                                                                                                                                                                                       AAC75657;
                                                                                                                                                         AAC75657
AAC76677
AAC76677
AAC76677
AAC767677
AAC76767
AAC76767
AAC76767
AAC76767
AAC76767
AAC76767
AAC767
AAC76
                                                                                                                                RESULT 9
```

```
ö
disorders, asthma, allergies, aplastic anaemia, burns, wounds, bone and cartilage damage, nocturnal haemoglobinuria, antiinflammatory disease; to enhance coagulation; to inhibit thrombosis; and as a contraceptive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; open reading frame; ORFX; gene therapy; cancer; cirrhosis; hyperproliferative disorder; psoriasis; benign tumour; haemorrhage; degenerative disorder; osteoarthritis; neurodegenerative disorder; cardiovascular disease; diabetes mellitus; systemic lupus erythematosus; hypertension; hypothyroidism; cholesterol ester storage disease; immune deficiency; immune disorder; infectious disease; autoimmune disorder; rheumatoid arthritis; autoimmune thyroiditis;
                                                                                                                                                                                                                                                                                                                                                                               93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                        34 ATGAACGAGAAGGCGTCCGTCTCCAAGGAGCTCAACGCCAAGCACAAGAAGATATTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        214 croscostocacararcraageraagarcreccacceregaracareceeecagageaa
                                                                                                                                                                                                                                                                                                                 1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                             GGGCTTCTTAAACATCCAGAGAACAGAGATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        94 gercricraceccarcereagaaragaaraceccagacrecaagreaagggreerea
                                                                                                                                                                                                                                                      0; Сарв
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel human polypeptides and polynucleotides useful for diagnosing,
                                                                                                                                                                                       DB 3; Length 371;
                                                                                                                                                                                 Score 237.2; DB 3; Length
Pred. No. 1.5e-61;
0; Mismatches 63; Indels
                                                                                                                            Sequence 371 BP; 113 A; 74 C; 102 G; 82 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human ORFX polynucleotide sequence SEQ ID NO:21197.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABN26360 standard; cDNA; 371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29-MAY-2001; 2001WO-US010836.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAY-2000; 2000US-0206132P.
29-AUG-2000; 2000US-0228716P.
                                                                                                                                                                                           16.3%;
                                                                                                                                                                                                                        al Similarity 81.4%;
275; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nyasthenia gravis; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (CURA-) CURAGEN CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-106308/14.
P-PSDB; ABP10608.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200192523-A2
```

```
Integrated to as open reading frame, ORRY, where X is 1-11491 (see Table 1) the specification). ABN15762 to ABN27252 encode the human ORRX proteins given in ABP00010 to ABP11500. ORRY proteins are useful for proteins given in ABP00010 to ABP11500. ORRY proteins are useful for treating or preventing a pathology associated with an ORRX-associated disorder. ORRY polynucleotide syndrome associated with ORRY-associated disorder. ORRY polynucleotide sequences can be used in the manufacture of a medicament for treating or preventing in gene therapy. ORRY sequences can be used in the treatment of cancer, hyperproliferative disorders, cirrhosis of liver, psoriamis, benign tumours, Reloid, degenerative disorders in bemorrhage, osteoarthritis, neurodegenerative disorders mellitus, systemic lupus erythematosus, hypertension, hypothyroidism, cohlesterol ester storage disease, autoins immune deficiencies and disorders, infectious disease, autoimmune thyroiditis, myasthenia gravis, graft-versus-host arthritis, autoimmune inflammatory evidense. Orr treating osteoporosis, bone degenerative disorders, includers, for treating osteoporosis, bone degenerative disorders, in various inclains, inclains, in use or treatment of lung or liver fibrosis, correction or regeneration and treatment of lung or liver fibrosis, reperfusion injury in various tissues and conditions resulting from systemic cytokine damage. N.B. The sequence data for this patent did not for the printed specification, but was obtained in electronic contents.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    format directly from WIPO at ftp.wipo.int/pub/published_pct_sequences
                                                                                                                                                                                                                                                                                                                                invention describes substantially purified human proteins
preventing and treating cardiovascular disease, neurodegenerative, hyperproliferative disorders and autoimmune disorders.
                                                                                                                                                                                                 Disclosure; SEQ ID NO 21197; 1037pp; English
```

Sequence 371 BP; 113 A; 74 C; 102 G; 82 T; 0 U; 0 Other;

```
GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94 dercricracoccáricorcada a para de descricradas de decricradas de descricradas de descric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CICGGGGTACACATATCGAAGGITCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                            93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  154 TGGGCAAGTGTGAATCTAGGTATCTTTATATGCATGACATGTTCTGGCATTCATAGAAGC
                                                                                                                                                                                                                                                                                                                                            34 ATGAACGAGAAGGCGTCCGTCTCCAAGGAGCTCAACGCCCAAGCACAAGAGATATTGGAA
                                                                                                                                                                                                                                       1 ATGAACGAGAAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                       Gaps
                                                                                                                            ö
/ Match
Local Similarity 81.4%; Pred. No. 1.5e-61;
les 275; Conservative 0; Mismatches 63; Indels 0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 CCCCCAAACTAGATAGAGTTGGAATTGAGAATTTAT 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                 Query Match
                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
```

```
Corn; corn tassel-derived polynucleotide; cdps; hybrid breeding; CDPs; inheritance; characteristic; growth; development; disease resistance;
                                                                                             Corn tassel-derived polynucleotide (cdps) SEQ ID NO:1317.
                                                                       14-MAY-2002
```

(first entry)

ABL71943 standard; cDNA; 313

ABL71943;

The present sequence describes a purified corn tassel-derived copymucleotide sequence (cdps) comprising a nucleic acid sequence polymucleotide sequence (cdps) comprising a nucleic acid sequence selected from those given in ABL70627 to ABL76833. The cdps sequences corn tassel-derived polypeptides (CDPs). The cdps sequences (CC can be used for determining altered gene expression, to recover can be used for determining altered gene expression, to recover contracteristics and to follow inheritance of desirable contracteristics through hybrid breeding programs. (I) are also useful in the evaluation, and alteration of desired characteristics associated with contract and development, disease resistance, environmental adaptability, completed and semblecular markers for studying inheritance of multigene traits in a plant breeding program. (I) can be used to produce a tassel-specific profile of gene transcription, a transcript image, to compressed propaptide, to identify isolate or extend identical or related corn tassel nucleic acid sequences from DNA libraries, in nucleic acid corn cassel nucleic acid sequences from DNA libraries, in nucleic acid determine hybridisation, and to identify the presence of and/or to contract the degree of similarity between two (or more) nucleic acid 60 AGGGCTTCTTAAACATCCAAGAGAACAGAAATGTGCTGACTGCAAAACAAAAGGTCCAAG 119 239 180 299 240 120 ATGGGCTAGTGTTAATTTAGGTATCTTTTTTGCTGCATGCTAGTTTCTGGGATTCACAGGAG 179 11111 | 1111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 111 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 300 ACCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAA 359 9 Novel purified corn tassel-derived polynucleotide useful for determining 1 AGTCTTCTACGGCATCCTGAGAATAGAGAATGCGCAGACTGCAAGTCAAAGGGTCCTCG 181 AGTIGCAFITATICAATCAATGGGAAACGAAAAAGCAAATAGCTATTGGGAAGCAAGGT TCTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACACATGGCTCCCCGAGCA 240 GGTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCT follow Gaps altered gene expression, to recover regulatory elements and to finheritance of desirable characteristics through hybrid breeding ö DB 6; Length 313; environmental adaptability; quality; yield; molecular marker; multigene trait; plant breeding; corn tassel; gene; ss. 51; Indels Sequence 313 BP; 98 A; 59 C; 82 G; 74 T; 0 U; 0 Other; 15.7%; Score 227.4; DB 6 83.5%; Pred. No. 1.4e-58; iive 0; Mismatches 51 Claim 1; SEQ ID NO 1317; 201pp; English Sherman BK; 98US-0082567P. Conservative Ito LY, (ITOL/) ITO L Y. (SHER/) SHERMAN B K. LALGUDI R V. WPI; 2002-163647/21. Similarity JS2001051335-A1 21-APR-1998; 16-APR-1999; Lalgudi RV, 258; 13-DEC-2001 180 Query Match Zea mays. programs Local LALG/) Best Loca Matches 셤 ò 셤 ò d Š g

ö

Sequence 270 BP; 85 A; 51 C; 70 G; 64 T; 0 U; 0 Other;

g

```
The present invention relates to the isolation of corn ear-derived polymucleotides (cdps) from the corn (Zea mays) cDNA libraries SATWON022 and SATWON023. Some of the cpds uniquely identify structural, functional, and regulatory genes of corn ear. The polymucleotides sequences are useful for detecting cpds in a sample, for producing a corn ear-specific brother of gene transcription, for detecting altered gene expression in inbred or hybrid plants, and for screening several molecules for specific binding to the polymucleotide. The caps are useful to identify, isolate, or extend identical or related corn-ear nucleic acid sequences from DNA libraries, and in nucleic acid amplification or hybridisation techniques to follow the expression of desirable traits through plant breeding programs. Preferably, the cdps are used to identify, evaluate, alter, or follow the inheritance of desirable traits through plant breeding cord development, disease resistance, environmental adaptability, quality, and yield of corn. The cdps are also useful as molecular markers for studying inheritance and multigene traits in a plant breeding program. The cpds are use used to identify desirable traits in confines by recombinant techniques. They are also useful in diagnostic assays to detect or confirm conditions or diseases associated with abnormal levels of corn confirm conditions or diseases associated with abnormal levels of the corn confirm conditions or diseases associated with abnormal levels.
241 GCCTCCTAACTACGATAGGGTTGGAATAGAGAATTTCATCCGTGCAAAATATGAGGACAA 300
                                                                                                                                                                                                                                                                                                                                                               Corn ear-derived polynucleotide; cdp; cDNA library; SATMON022; SATMON023; structural gene; functional gene; regulatory gene; corn ear-specific profile; gene transcription; gene expression; hybrid plant; desirable trait expression; plant breeding program; inheritance; desired characteristic; growth; development; disease resistance; environmental adaptability; quality; yield;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel purified corn-ear derived polynucleotide useful as hybridization probe for detecting polynucleotide in sample, and for identifying, evaluating, and altering desired characteristics associated with growth,
                                                                                                                                                                                                                                                                                                                           Corn ear-derived polynucleotide (cpd) #574.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example; SEQ ID NO 574; 390pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 multigene trait; plant; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sherman BK;
                                                                                                                                                                                          ABX82114 standard; cDNA; 270 BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99US-00313294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0086722P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                                                                                                (first entry)
                                          360 GAGATGGGT 368
                                                                                 301 GAGATGGGT 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Lalgudi RV, Ito LY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-208840/20.
                                                                                                                                                                                                                                                                                24-APR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        14-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US6476212-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-NOV-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             development
                                                                                                                                                                                                                                     ABX82114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Zea mays.
                                                                                                                                                RESULT 12
                                                                                                                                                                    ठे
                                                                                 8
```

```
ö
                                                                                                                       211
                                                                                                                                                      120
                                                                                                                                                                                   271
                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                331
                                                                                                                                                                                                                                                                             240
                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention relates to novel plant transcription factors from Eucalyptus grandis or Pinus radiata. The present sequence is the coding sequence for one such transcription factor. The transcription factor may be used to produce a plant having modified gene expression such as a woody plant e.g. a eucalyptus, pine, acacia, poplar, sweetgum, teak, or mahogany species or to modify the activity of a polypeptide in a plant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Plant; transcription factor; gene expression; eucalyptus; pine; acacia; poplar; sweetgum; teak; mahogany; bZIP; G-box binding factor; basic helix-loop-helix zipper; homeotic; homeodomain; homeobox; MADS; homeodomain zipper; LIM domain; AP2; EREBS; zinc finger domain; type 2 Cys2His2; CCAAT box element; MYB; ss.
                                                                                                                                                                                                                                                                  New isolated polynucleotide encoding a plant transcription factor for producing a plant e.g. a woody plant, preferably eucalyptus or pine, having modified gene expression or modified activity of a polypeptide.
                                                                                          1 GCGCAGACTGCAAGTCAAAGGGTCCTCGATGGGCCAAGTGTGAATCTAGGTATCTTTATAT
                                                                                                                       152 GCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGGTTCGATCTG
                                                                                                                                                    212 CCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGGGAAATGATA
                                                                                                                                                                                                     272 AAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGAGTTGGAATTGAGA
                                                           92 GIGCIGACIGCAAAACAAAAGGICCAAGAIGGGCIAGIGTIAAAIIITAGGIAICITIAICI
                                Gaps
                              ö
 Length 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eucalyptus grandis transcription factor DNA sequence #532.
                              44; Indels
Score 199.6; DB 10;
Pred. No. 4e-50;
                                                                                                                                                                                                                                                                                                                              241 ATTTCATCCGTGCAAAATATGAGGACAAGA 270
                                                                                                                                                                                                                                                                                                            332 ATTTTATACGTGCAAAGTATGAAGAAGA 361
                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Shenk MA, Glenn M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENESIS RES & DEV CORP LID. FLETCHER CHALLENGE FORESTS LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1; Page 486; 747pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                     AAC56661 standard; DNA; 408 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99US-00266513.
99US-0149485P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09-MAR-2000; 2000WO-US006112.
13.7%;
83.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wood M, Mcgrath A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2000-579369/54.
                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eucalyptus grandis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200053724-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    14-SEP-2000
                              226;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAC56661;
 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GENE-)
                                Matches
                                                                                                                                                                                                                                                                                                                                                                                          RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                        AAC56661
                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                      요
                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                       ò
                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                ઠે
```

polymucleotides (cpds) of the invention. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic formet directly from the USPTO web site at sequence uspto.gov/psipsDIDEntry.html

```
348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGGGGTACACATATCGAAGGTCCGATCACTTTGGACACATGGCTTCCAGAGCAG 408
                                                                                                  LIM domain, AP2 box elements and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Novel purified corn tassel-derived polynucleotide useful for determining altered gene expression, to recover regulatory elements and to follow inheritance of desirable characteristics through hybrid breeding
The transcription factors of the present invention are members from the following families of regulatory proteins: bZIP, bZIP family of G-box binding factors, basic helix-loop-helix zipper, homeodomain/homeobox/MADS, homeodomain zipper, LIM domain, AP2 and EREBs, zinc finger domains of type 2 Cys2His2, CCAAT box elements an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Corn; corn tassel-derived polymucleotide; cdps; hybrid breeding; CDPs; inheritance; characteristic; growth; development; disease resistance; environmental adaptability; quality; yield; molecular marker; multigene trait; plant breeding; corn tassel; gene; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The present sequence describes a purified corn tassel-derived polynucleotide sequence (cdps) comprising a nucleic acid sequence selected from those given in ABL70627 to ABL76833. The cdps sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Argaaceegaaeeccaacercrccaaeeacrccaarececcaccacaeaagarrcrceaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGCTTCTTAAACATCCAGAGAACAGAATGTGCTGACAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGCTTCTCAAATTGCCTGAGAACAGGGAGTGTGCTGATTGTAAGGCCCAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        resectastroratriasesataritatatecarecaatetrosesatecatasaset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCGGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                Query Match
12.6%; Score 182.4; DB 3; Length 408;
Best Local Similarity 85.0%; Pred. No. 9.1e-45;
Matches 204; Conservative 0; Mismatches 36; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Corn tassel-derived polynucleotide (cdps) SEQ ID NO:2723.
                                                                                                                                                                                                                               Sequence 408 BP; 105 A; 96 C; 109 G; 98 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1; SEQ ID NO 2723; 201pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sherman BK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABL73349 standard; cDNA; 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-0082567P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99US-00294093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LALGUDI R V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lalgudi RV, Ito LY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SHERMAN B K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-163647/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US2001051335-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ITO L Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13-DEC-2001.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABL73349;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          programs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (LALG/)
(ITOL/)
(SHER/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Zea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABL/73349

110
ABL/73349

AC
ABL/A

XX
ABL/A

XX
ABL/A

XX
ABL/A

XX
ABL/A

ABL
         888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
```

```
encode corn tassel-derived polypeptides (CDPs). The cdps sequences (1) can be used for determining altered gene expression, to recover regulatory elements and to follow inheritance of desirable characteristics through hybrid breeding programs. (1) are also useful in the evaluation, and alteration of desired characteristics associated with growth and development, disease resistance, environmental adaptability, quality and yield, and as molecular markers for studying inheritance of multigene traits in a plant breeding program. (1) can be used to produce a tassel-specific profile of gene transcription, a transcript image, to clone regulatory elements for use in transformation vectors, to express a polypoptide, to identify, isolate or extend identical or related corn tassel nucleic acid sequences from DNA libraries, in nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAAGTTCTGG-GATTCACAGGAG 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181 AGTTGCATTTATTCAATC-ANGGGACCCGAAANAGCCAATCGNTATNGGGNNACANACCN 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                        hybridisation or amplification technologies, as query sequences to determine homology of known sequences, as probe for use in Southern or Northern hybridisation, and to identify the presence of and/or to determine the degree of similarity between two (or more) nucleic acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240 GGTTGCATTTATACAGTCAATGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2 gercirciacegearcereagaaradagaareeecagacrecaagreaaageareereaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62 rececadererenarionale de la recentarion del recentarion della r
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180 TCTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cytostatic; Cardiant; Anti-allergic; Immunosuppressive; Vulnerary; Antinflammatory; Gene therapy; human; ORK?, atherogenic; platelet; human umbilical vein endothelial cell; HUVEC; atherosclerotic plaque; cancer; cardiovascular disease; allergy; autoimmune disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    wound healing; blood coagulation disorder; inflammatory disorder; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ë
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 290;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 290 BP; 83 A; 63 C; 66 G; 55 T; 0 U; 23 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 127.2; DB (
Pred. No. 5.7e-28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human ORF744 coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-MAY-2001; 2001US-00867550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAY-2000; 2000US-0208427P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABQ98937 standard; DNA; 587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 8.8°
Best Local Similarity 75.9°
Matches 189; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300 ACCCCCAAA 308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240 CCACCNACA 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (LEAC/) LEACH M D. (MEHRA) MEHRABAN F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US2002082206-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         27-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sednences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABQ98937;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       $$$$$$$$$$$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
```

```
Leach MD, Mehraban F,
                  WPI; 2002-626554/67.
P-PSDB; ABP64374.
(CONL/) CONLEY P B. (TOPP/) TOPPER J N. (LAWD/) LAW D.
```

Law D;

Topper JN,

Conley PB,

The present invention relates to novel human ORFX polypeptides and their coding sequences (ABP63631-ABP64681 and ABQ98194-ABG99267). The sequences were discovered in human atherogenic cells, in particular in platelets and human umbilical vein endothelial cells (HVVBC) and are expressed in many other tissues as well. Atherogenic cells are cells which have the potential to develop atherosclerotic plaques. The ORFX polypeptides and nucleic acids are useful for treating or preventing a pathological condition associated with an ORFX-associated disorder, e.g. cancer, cardiovascular disease, allergy, autoimmune disease, wound healing, blood cosqualation disorders or inflammatory disorders. Note: The sequence data for this patent did not form part of the printed specification, but was obtained in electronic format directly from the USPTO web site at sequence. New polypeptide designated ORFX are present in human atherogenic cells and are useful to prevent and treat ORFX-associated disorders including cancer, allergy, wound healing or autoimmune, cardiovascular or Claim 2; SEQ ID NO 1487; 78pp; English inflammatory disease

Sequence 587 BP; 166 A; 151 C; 138 G; 130 T; 0 U; 2 Other;

83 ACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTA 142 179 ACAAGTACTGGGCCGACTGCGAGGCCAAAGGTCCTCCATGGGCTTCCTGGAATATTGGTG 238 143 TCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGG 202 239 IGITIATITICCATCAGAIGIGCIGGAAITICATAGAAAICITIGGGGITCATATATATCCAGGG 298 262 299 icaaaitcagicaacciagaccaaridaacagcagaacagaacagacaracarigcaagarardg 358 82 23 CTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAAGGGCTTCTTAAACATCCAGAGA 203 TTCGATCTGCCACTCTGGACACATGGCTCCCCGAGGTTGCATTTTATACAGTCAATGG Gaps ö 7.4%; Score 107.2; DB 6; Length 587; 0.11%; Pred. No. 1.1e-21; ve 0; Mismatches 118; Indels 0 Query Match 7.4%; Best Local Similarity 60.1%; Matches 178; Conservative 쉽 ઠે g ò 셤 ઠે g

Search completed: September 27, 2005, 03:19:28 Job time : 785 secs

GAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA 318 359 GAAATACTAAAGCAAGACTACTCTATGAAGCCAATCTTCCAGAGAACTTTCGAAGA 414

263

ò

```
61 GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGCAAAACAAAAAGAGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.0%; Score 1452; Best Local Similarity 100.0%; Pred. No. 0; Matches 1452; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CQ803692 Sequence
BT000287 Arabidops
AY099716 Arabidops
AY088913 Arabidops
AF184144 Arabidops
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryza Bat
Oryza Bat
                                                                     September 27, 2005, 02:40:34; Search time 6231 Seconds (without alignments) 11291.442 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oryza sat
Arabidops
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapi
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xenopus 1
Xenopus 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ношо варі
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                             1 atgaacgagaaagccaacgt.....gaatgttcacaaaacattga 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AK067240
AK067125
AK068892
AB010695
CQ455437
AR245215
BC077937
 5.1.6
Compugen Ltd.
                                                                                                                                                                                                      4708233 segs, 24227607955 residues
                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
GenCore version
Copyright (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AF184144
AK067240
AK067125
AK068892
AB010695
CQ455437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BC028074
AR541755
AX059559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AY099716
AY088913
                                                                                                                                                                  IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                     Minimum DB seq length: 0 Maximum DB seq length: 2000000000
                                                                                                                   US-10-630-518-1
1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length DB
                                                                                                                                                                                                                                                                                                                                                 99b htg., 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1451
1741
1741
270
371
270
371
778
778
2223
2336
2335
23885
                                                nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1492
                                                                                                                                                                                                                                                                                                                                      GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1452
1452
1452
1447.2
1436
                                                                                                                     Title:
Perfect score:
                                                                                                                                                                   Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               199.6
111.2
109.6
                                                 OM nucleic
                                                                                                                                                                                                                                                                                                                                         Database :
                                                                                                                                             Sequence:
                                                                                                                                                                                                      Searched:
                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š.
```

ö

Gaps

.; 0

; 0

DB 6; Length 1452; Indels

9 9

1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA

180

180

107.2   7.4 3164 9

1321 ATGACCCCAAACTCAACCGGTAAACCTCAGTCATCCGCAACCCAACCAA			USA e-mail for correspondence: arab@sequence.stanford.edu RIKEN Genomic Sciences Center (GSC) members carried out the collection and clustering of RAFL cDNAs (RAFL cDNA: 'RIKEN Arabidopsis Full-bength cDNA'): Seki,M., Narusaka,M., Ishida,J., Sacou,M., Kamiya,A., Sakurai,T., Carninci,P., Kawai,J., Hayashizaki,Y. and Shinozaki,K.	The Salk, Stanford, PGEC (SSP) Consortium members constructed and sequenced the pENTR (ORF) clones using the RAFL cDNAs: Nguyen, M., Southwick, A., Tripp, M., Palm, C.J., Jones, T., Wu, T., Chen, H., Cheuk, R., Chan, M.M., Chang, C.H., Dale, J.M., Deng, J.M., Hsuan, V.W., Lee, J.M., Kim, C.J., Quach, H.L., Shinn, P., Tang, C.C., Toroumi, M., Wallender, E.K., Wong, C., Wu, H.C., Yamada, K., Yu, G., Yuan, S., Ecker, J., Theologis, A. and Davis, R.W.	Nguyen, M., (SSP/Stanford) and Seki, M. (RIKEN GSC) corequally to this work. Shinozaki, K. (RIKEN GSC) and I (SSP/Stanford) contributed equally to this work as Pl Location/Qualifiers  i. 1612  /organism="Arabidopsis thaliana" /mol type="mRNA" /db_xref="haxon:3702" /chromosome="5" /chromosome="5" /clone="U25083" /clone="U25083" /cocype="COlumbia"	/Mocoduct using RIKEN clone RAFL09-80-Mi3 (AY0997 a template" 1.1612 //gene="At5954310"   1.1452  /gene="At5954310"   //gene="At5954310"   //codon_start=1
8 4 8 4 8 4	RESULT 2 BT000287 LOCUS DEFINITION ACCESSION VERSION KEYONES SOURCE ORGANISM	REFERENCE AUTHORS TITLE JOURNAL	COMMENT		FEATURES	gene
181 CTCGGGGTACACATATCGATCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240 241 GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAATAGTTACTGGGAAGCGAGCG	421 AAATCTGTGGAGAGAGAGCCGGGATATGAGCATGGACATAGTAGTAGTAGTAAT 480	601 ATGGAGTCTGCAGTACTCCAGTAGAGAGAAAACAAGCAGTAAATGTTGCACCAGCA 660 [	781 GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAATTGTCACAGCCCAAGCCT 840	901 CCTANITIAACAACTCAACAACACCCAAAAGAIGIGAAAGGGGAIATCAIGAGCCTGTTT 960	1021 CAGCAGCCACTTTACATGGCTGCAAAGCTGCTGGAGGCACTCCAAACGGCGTG	1201 ATGCAAACATGAATATGAACGCAAACATGAACACGAACCCGCACAACCGCAAGAAAC

960 960

900

```
AY099716.

AY099716.1 GI:20466499

FLI CONN.

Arabidopsis thaliana (thale cress)

Bukaryora, Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.

I (bases I to 1777)

Buyen, M., Karlin-Neumann, G., Southwick, A., Lam, B., Miranda, M., Palm, C.J., Bowser, L., Jones T., Banh, J., Carninci, P., Chen, H., Kawai, J., Kain, C., Lin, J., Lin, S., Narusaka, M., Pham, P.K., Sakano, H., Sakurai, T., Satou, M., Seki, M., Shinn, P., Yamada, K., Shinozaki, K., Ecker, J., Theologis, A. and Davis, R.W.

Shinozaki, K., Ecker, J., Theologis, A. and Davis, R.W.

Submitted (24-APR-2002) DNA Sequencing and Technology Center, C. Submitted (24-APR-2002) DNA Sequencing and Technology Center,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1777 bp mRNA linear PLN 06-MAY-2002
thaliana unknown protein (At5g54310) mRNA, complete
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d (24-APR-2002) DNA Sequencing and Technology Center, University, 855 California Avenue, Palo Alto, CA 94304,
                                                                                                                                                                                           AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                            ATGACCCCAAACTCAACCGGTAAACCTCAGTCATCCGCAACCCAACAAGCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGAGAGCCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA
                                                                                          ATGCAAAACATGAATATGAACGCAAAACATGAACACGCAGAGACCCGCACAACCGCAAGAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
               GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTTGAGGATTTTAAGGACACA
                                                                         CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGGATATCATGAGCCTGTTT
                                                                                                                                 GAGAAGAAGAATATAGTCGCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                       GAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                              GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                      ACTCTACAATACCCATCATCCAGTTTCTACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RIKEN Genomic Sciences Center (GSC) members carried out
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             e-mail for correspondence: arab@sequence.stanford.edu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AY099716
Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Stanford
                                                                                                                                                                                                                                                                                                                                                                                                             1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1441
                                              841
                                                                                                                                                                                                1021
                                                                                                                                                                                                                            1021
                                                                                                                                                                                                                                                          1081
                                                                                                                                                                                                                                                                                        1081
                                                                                                                                                                                                                                                                                                                                                1141
                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                           1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1321
                                                                           901
                                                                                                        901
                                                                                                                                    961
                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                     1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
AY099716
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                     g
                                                                      8 8 8
                                                                                                                                                          g
                                                                                                                                                                                              ò
                                                                                                                                                                                                                    원
                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                         8 6
                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ठ हे ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
/product="unknown protein"
/product="unknown protein"
/db_xref="G1:21198158"
/db_xref="G1:21198158"
/translation="MONEANUSKELNARHRKILEGILKHPENRECADCKTKGPRWASV
/translation="MONEANUSKELNARHRKILEGILKHPENRECADCKTKGPRWASV
NLGIFICMOCSGIHRSLGVHISKVRSATLDTWLPEQVAFIQSMGDNGANSYWEAELPP
NYDRYGIENFIRAKTERKRWYSRERANSFRSTERSGOFGYENGHESSEPVN
LFEERKTIPASRTRNNVAATRINLPVPPOGPSGVIKPOCKMSSAATPVEREKGANNVA
PASDPFKVDPATDLFNMLSMDDSTTNTSEATPGDTPADDNSWAGFQSAGSGQTAEKIV
TAKPAESSSPPASSDFEDLFKDTPNLTTQARKDVKGDINGLFEKTNIVSPPAMHQQ
QVAMLAQOQALIYMAAKAAGGTPNGVNQAIANALNVASANWSNPGGYQIPGMTNPVG
GQALLQKLMQNMNMNANWTRRPAQPOGNTLQYPSSSFYTMGGANQVNGMTPNSTGKPQ
SSSATQPTSTTPSSQSGKDFDFSSLMDGMFTKH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          720
                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGGGGTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCCCCAAACTAGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TIGITITGAGGAGGAAAAACTATICCAGCAICTAGAACAAGAATAATGTIGCIGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                     CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATGAACGAGAAAGCCAACGTCTTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                         ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                           resectasterraturasstarcritarcresarscarstreressartre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATGGAGTCTGCAGCTACTCCAGTAGAGAGAGAAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGGCAAGCCT
                                                                                                                                                                                                                                                                                                                                     GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                               TGGGCTAGTGTTAAGTTTTAGGTATCTTTATCTGCATTGTATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                Length 1612;
                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                8,
                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                DB
                                                                                                                                                                                                            s; Score 1452; Lpred. No. 0;pi Mismatches
                                                                                                                                                                                                              Query Match
Best Local Similarity 100.0%;
Matches 1452; Conservative 0;
                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               481
                                                                                                                                                                                                                                                                                                                                     8 6
                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8 &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           යි සි
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음 장
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
```

1260

1260 1320

1200 1200 1380

```
1320
                                                                                                                                                                                                                                                                                                                                                                                                                            1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGCAAAACATGAATATGAACGCAAACATGAACACGGGGGCCCGCACAACCGCAAGAGAAC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1590
                                                                            540
                          480
                                                   630
                                                                                                     690
                                                                                                                                900
                                                                                                                                                                                                                                                                                           780
                                                                                                                                                                                                                                                                                                                     930
                                                                                                                                                                                                                                                                                                                                                840
                                                                                                                                                                                                                                                                                                                                                                       990
                                                                                                                                                                                                                                                                                                                                                                                                  900
                                                                                                                                                                                                                                                                                                                                                                                                                                                       960
570
                                                                                                                                                         750
                                                                                                                                                                                  99
                                                                                                                                                                                                             810
                                                                                                                                                                                                                                      720
                                                                                                                                                                                                                                                               870
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                         GAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                            931 GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                GCTGAGAGCAGTTCTCCTCCCAGCTTCATCTTCTGACTTTGAGGATTTGTTAAAGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTAATTTAACAACTCAACAAGGACCCCAAAAGATGTGAAAGGCGATATCATGAGGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAGAAGACGAATATAGTATCGCCTTTTGCCATCCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCCTACCAGATCCCCGGAATGACTCAACCCCGTAGGTGGTCAAGCTGATCTCCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1411 ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                              AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAA
                                                                                                                                                                                                                                                                                                                                              GCTGGCTTTCACTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                     GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1591 ACAAAACATTGA 1602
                                                                                                                                                                                                                                                                                                                     871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1171
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1381
                                                   571
                                                                                                     631
                                                                                                                                                          169
                                                                                                                                                                                                                                                                                                                                                                                                                               166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1201
                          421
                                                                              481
                                                                                                                                541
                                                                                                                                                                                     601
                                                                                                                                                                                                             751
                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                  811
                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                        901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1441
                  ð
                                               셤
                                                                           ò
                                                                                                g
                                                                                                                          8 8 8
                                                                                                                                                                                                       원
참
                                                                                                                                                                                                                                                         ያ
ያ
                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                          9
9
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 & B &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            면
장
면
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     q.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                               /gene="At5g54310"
151. 1602
/gene="At5g4310"
/codon_graft="
/product="unknown protein"
/protein_id="aAM20567.1"
/db_xref="GI:20466500"
/translation="MMERKILARHRKILEGLLKHPENRECADCKTKGPRWASV
NGGIFICMGCSGTHRKLGAHISKRRATLDTWLDEQVARIQSMGNDKANSYWBAELPP
NYDRVGIENFIRAKYEEKRWVSRGEKARSPPRVEQERRKKSVERSGFGFHGHSSSPVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LFEERKTI PASRTRINNVAATRINLPVPPOGPSGVI KPOOKMESAATPVEREKOAVNVA
PASDPPKVDFATDLFINLSMDDSTTNTSEATPGDTPADDNSWAGFQSAGGGTAEKI V
TAKPABSSSPPSSSPPEDLFKOTPNLTTOQAPKDVKGDI MSLFEKTNI VSPPAMHOO
OVAMLAQQQALYMAAKAAGGTPNGVNQOAI ANALNVASANWSNPGGYOI PGMTNPVG
GOADLOKLMONNWANMYTRPAQPOENTLOYPSSSFYTMGQANQVNGMTPNPNSTGKPO
SSSATQPTSTTPSSGSGKDFDFSSLMDGMFTKH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGGCTAGTGTTAATTTAGGTATCTTTATCTCCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                              The Salk, Stanford, PGEC (SSP) Consortium members carried out the sequencing and annotation of the RAFL cDNAs: Nguyen,M., Southwick,A., Karlin-Neumann,G., Lam,B., Miranda,M., Palm,C.J., Bowser,L., Jones,T., Banh,J., Chen,H., Cheuk,R., Chung,M.K., Kim,C., Lin,J., Liu,S.X., Pham,P.K., Sakano,H., Shinn,P., Yamada,K., Ecker,J., Theologis,A. and Davis,R.W.
collection and clustering of RAFL cDNAS (RAFL cDNA : 'RIKEN Arabidopsis Full-Length cDNA'): Seki,M., Narusaka,M., Ishida,J. Satou,M., Kamiya,A., Sakurai,T., Carninci,P., Kawai,J., Hayashizaki,Y. and Shinozaki,K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGCTTCTTAAACATCCAGAGAACAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nguyen,M, (SSF/Stanford) and Seki,M. (RIKEN GSC) contributed equally to this work. Shinozaki,K. (RIKEN GSC) and Davis,R.W. (SSF/Stanford) contributed equally to this work as PIs. Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1777;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                             /ecotype="Columbia"
/note="This clone is in pBluescript"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .,
8
                                                                                                                                                                                                             1. 1777
/organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                               /clone="RAFL09-80-M13 (R25083)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 1452;
100.0%; Pred. No. 0;
iive 0; Mismatches
                                                                                                                                                                                                                                       /mol_type="mRNA"
/db_xref="taxon:3702"
/chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                        .1777
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
Matches 1452; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                CDS
                                                                                                                                                                                                    PEATURES
```

DRIGIN

g

8

8 6 6

8 6 8 6

8 8 8

ö

Gaps

;

226 120 346

240

406 300 466 360 526 420 586 480 646 540 706

286 180

```
CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCCCCAAACTATGATAGAGTTGGAAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1007 gereagageagricerecerecagerrearcricagerrreaggarrranggacaca
                                                                                                                                                                                                                                                                                                                                 287 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                      TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           827 rcagarccrccaaaggrggarrrrgcracrgarcrgrrraacargcrarcaarggargar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              947 GCTGGCTTTCAGTCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTTAAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTGGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCTAATITAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                    GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGGAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                        ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                          TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                           Indels
                         3.
Pred. No. 0;
0; Mismatches
  99.8%; Pred. No.
                           Matches 1449; Conservative
     Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1021
                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        887
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       961
                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ٠.
                                                                                                                                셤
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ठ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ठे
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   đ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                 δ
                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Direct Submission

Submitted (11-MAR-2002) Ceres, Inc, 3007 Malibu Canyon Road,
Malibu, CA 90265, USA

This clone sequence is one of 5,000 Ceres full-length cDNAs made
available to TiGR and Genbank. The following quality assessment of
this set was done by comparison with known proteins: two percent
the clones are estimated to be 5'-truncated; less than one percent
are 3'-truncated; approximately two percent represent alternative
splice variants, including unspliced introns and spliced exons; one
percent may contain premature stop codons; five percent may have
frame shifts in a coding region. A sequence is considered to be
5'-truncated if it lacks the translation initiation start (ATG). A
sequence is considered to be 3'-truncated if it lacks the
C-terminal end of the encoded protein. Please note that these cDNA
sequences are derived from the Ws or Late ecotypes and therefore
may contain polymorphisms when compared to sequences from Col-0.
Genset carried out the library production and sequences from Col-0.
Genset carried out the library production and sequences from Col-0.
Josuph clones. Ceres, Inc. carried out the clustering of the
full-length clones. Ceres, inc. carried out the clustering of the
Location of clones, and sequence assembly.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TETER TO THE TOTAL THROUGH THE TOTAL THROUGH THE TOTAL TO THE TOTAL TO THE TOTAL THROUGH THROU
                                                                                                             PLN 14-APR-2003
                                                                                                                                                                                                                                                                    Arabidopsis thaliana subaryophyta; Embryophyta; Tracheophyta; Subaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; eudicotyledons; core eudicots; rosida; eurosida II; Brassicales; Brassicaceae; Arabidopsis. 1 (bases 1 to 1794) Harasicales; Troukhan, M., Alexandrov, N., Feldmann, K.A., Flavelli, R.B., White, O. and Salzberg, S.L. Full-length messenger RNA sequences greatly improve genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /codon_start=1
product="ARP GAP-like zinc finger-containing protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2 (bases 1 to 1794)
Brover, V., Troukhan, M., Alexandrov, N., Lu, Y.-P., Flavell, R.
Feldmann, K.
Full-Length cDNA from Arabidopsis thaliana
Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 (bases I to 1794)
Brover, V., Troukhan, M., Alexandrov, N., Lu, Y.-P., Flavell, R.
Feldmann, K.
                                                                                                          AY088913 1794 bp mRNA linear PLN 1
Arabidopsis thaliana clone 99519 mRNA, complete sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SSSATOPTSTTPSSOSGKDFDFSSLMDGMFTKH"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         organism="Arabidopsis thaliana"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome Biol. 3 (6), RESEARCH0029 (2002)
                                                                                                                                                                                                                                          Arabidopsis thaliana (thale cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="AAM67219.1"
/db_xref="G1:21618169"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /mol_type="mRNA"
/db_xref="taxon:3702"
/clone="99519"
                                                                                                                                                                                        AY088913.1 GI:21407687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .1618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              annotation
                                                                                                                                                                                                                       CDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                22088475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12093376
                                                                                                                                   DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                         ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                          RESULT 4
AY088913
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                             AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
```

900

991

099

826

720 886 780 946 1006

840

1066

900

1126 1020 1186

Score 1447.2; DB 8; Length 1794;

99.78;

Query Match

```
12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

12899/09.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ramamocto, m.
rated, r. Ikeda, R., Ishibiki, J., Kawamata, M., Kobayashi, M.,
Rodama, T., Kursonski, T., Lu, M., Masuda, H.,
Mizuno, K., Narikawa, R. Niikura, J., Oka, M., Ryu, R., Sugano, S.,
Sugiyama, A., Suzuki, Y., Tsunoda, Y., Ueda, M., Xie, Q., Yokomizo, S.,
Sugiyama, A., Suzuki, Y., Tsunoda, Y., Ueda, M., Xie, Q., Yokomizo, S.,
Sugiyama, A., Suzuki, Y., Tsunoda, Y.,
Genome Exploration Research Group in Riken: Adachi, J., Aizawa, K.,
Animura, A., Hashizune, W., Hayashida, K., Hayatsu, N., Hiramoto, K.,
Hiracka, T., Hori, P., Itida, J., Imamura, K., Imotani, K., Ishii, Y.,
Itoh, M., Kagawa, I., Kanagawa, S., Katoh, H., Kawai, J.,
Kishikawa-Hirozane, T., Kojima, Y., Kodo, S., Konno, H., Kouda, M.,
Koya, S., Kutihara, C., Matsuyama, T., Miyazaki, A., Murata, M.,
Nishi, K., Nomura, K., Shinagawa, A., Shiraki, T.,
Sasaki, D., Sato, K., Shibata, K., Shinagawa, A., Shiraki, T.,
Sasaki, D., Sato, K., Shibata, T., Tomaru, A., Takahashi, F.,
Takaku-Akahira, S., Tanaka, T., Tomaru, A., Toya, T., Waki, K.,
Yawunishi, A. and Hayashizaki, Y.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               URL: http://cdna01.dna.affrc.go.jp/cDNA/
NIAS Rice Full-Length cDNA Project Team: Kikuchi,S., Satoh,K.,
Nagata,T., Kawagashira,N., Doi,K., Kishimoto,N., Yazaki,J.,
Ishikawa,M., Yamada,H., Ooka,H., Horta,I., Kojima,K., Namiki,T.,
Ohneda,E., Yahagi,W., Suzuki,K., Li,C., Ohtsuki,K., Shishiki,T. and
Yamamoto,M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (05-DEC-2001) Shoshi Kikuchi, National Institute of Agrobiological Sciences, Department of Molecular Genetics, Head of Laboratory of Gene Expression; 2-1-2 Kannondai, Tsukuba, Ibaraki 305-8602, Japan (E-mail:skikuchi@mias.affrc.go.jp, Tel:81-29-888-7007, Rax:81-29-838-7007)
This clone is one of the 28K full-length cDNA clones from japonica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21.1%; Score 307; DB 8; Length 1451;
59.2%; Pred. No. 4.1e-74;
iive 0; Mismatches 390; Indels 33; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 organism="Oryza sativa (japonica cultivar-group)"
Science 301 (5631), 376-379 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db_xref="taxon:39947"
/clone="J013096N21"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /mol_type="mRNA"
/cultivar="Nipponbare"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 59.2%
Matches 614; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Yoshimura, A.
                                        22752273
12869764
        JOURNAL
MEDLINE
PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
                                                                                                                                                               AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The Rice Full-Length CDNA Consortium, National Institute of Agrobiological Sciences Rice Full-Length CDNA Project Team:, Kikuchi, S., Satoch, K., Nagata, T., Kawagashira, N., Doi, K., Kikuchi, S., Satoch, K., Nagata, T., Kanada, H., Ooka, H., Hotta, I., Kishimoto, N., Yazaki, J., Ishikawa, M., Yamada, H., Ooka, H., Hotta, I., Kojima, K., Namiki, T., Poundal, E., Yahagi, W., Suzuki, K., Li, C., Li, C., Ohneda, E., Yahagi, W., Suzuki, K., Li, C., Li, C., Kojima, K., Sugano, S., Fujimura, T., Suzuki, Y., Tsunoda, Y., Murakami, K., Kurosaki, T., Kodama, T., Masuda, H., Kobayashi, M., Xie, Q., Lu, M., Nariawa, R., Ishibiki, J., Kawayashi, W., Xie, Q., Lu, M., Nariawa, R., Ishibiki, J., Kawamata, M., Yoshimura, A., Miura, J., Kawai, J., Carninci, P., Adachi, J., Alazawa, K., RIKRISH:, Kawai, J., Carninci, P., Adachi, J., Alazawa, K., RIKRISH:, Kawai, J., Kanawai, J., Konno, H., Miyazaki, A., Otaki, Y., Konno, H., Miyazaki, A., Otaki, Y., Konno, H., Miyazaki, A., Otaki, Y., Sato, K., Shibata, K., Shinagawa, A., Shiraki, T., Collection, mapping, and annotation of over 28,000 cDNA clones from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Oryza sativa (japonica cultivar-group) cDNA clone:J013096N21, full insert sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1081 CTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGCGGCTACCAGATCCCG 1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1201 TGAACGCAAACATGAACACGGAGACCCGCAACCGCAAGAGAACACTCTACAATACCCAT 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1021 ACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTGAATCAACAAGCTATTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAATGACTAACCCCGTAGGTGATCAAGCTGATCTCCAGAAACTTATGCAAAACATGAATA 1216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGAACGCAAACATGAACACGAGAGCCCGCACAACCGCAAGAGAACACTCTACAATACCCAT 1276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CATCCAGITICIACACAAIGGGICAAGCIAAICAAGIGAACGGIAIGACCCCAAACICAA 1336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1337 CCGGTAAACCTCAGTCATCCGCAACCCAACCAACAAGCACCACCACCATCTTCACAAT 1396
                                                                                                                                                                                                                                                                                                                                                                                                                                            1037 ACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTGAATCAACAAGCTATTG 1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AKO67240.1 GI:32977258
FLI_CDNA; CAP trapper.
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Bukaryota; viridiplancae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae; Oryzea.
                                                                                                                              916
                                                                                                                                                                                                   AACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGAGAAGACGAATATAG 960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGCAAAGACTTTGATTTCTCTTGATGGATGGAAGTGTTCACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGCGGCTACCAGATCCCCG
    AACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTTGAGAAGACGAATATAG
                                                                                                                                                                                                                                                                                     japonica rice
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1397
                                                                                                                              917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1261
                                                                                                                                                                                                                901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1097
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
AK067240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
```

à

셤 ሯ 셤 ò 셤 ð

g

g ઠે g

8

g

δ

g ò

ò

원

6 8 6 8 6

ð

요

g

ઠે

ઠ

g

8 8 8 8 8

δ

유

ò

g

ઠ

셤

ઠે

a

δ

셤

g &

ò

8 8

ઠે

,,	61 GGGCTTCTTAAACATCCAGAGAAACAGAAATGTGCTGAAAACAAAAGATCCAAGA 120 	
	121 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCAATGTTCTGGGATTCACGGAGT 180 	
•	181 CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGGGCAG 240 	
<del></del>	241 GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATGGTTACTGGGAAGCAGAGCTA 300 	
2	301 CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAAG 360 	
	361 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCĠAGCAGGAACGGGG 420 	
	421 AAATCTGTGGAGAGAGGGGCGGGGATATGAGCATGGGACATAGTAGTAGTCCTGTAAAT 480	
	481 TTGTTTGAGGAGAGGAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG 540 	
<del>-</del>	541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCGGTTATAAAGCCACAGCAGAAAA 600	
	601 ATGGAGTCTGCAGCTACTCCAGTAGAGAGAAACAAGCAGTAAATGTTGCACCA 657	
·	658 GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGTTTAACATGCTATCAATGGAT 717 	
	718 GATTCGACTACAAATACCTCGAGGAACTCCTGGCGATACTCCTGCCGATGATAACTCA 777	
Ä	778 TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAACGGCAGAAAATTGTCACAGCCAAG 837	
1	838 CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTGACTTTGAGGATTTGTTT 891	
- H	892 AAGGACACCCTAATTTAACAACTCAACAAGACACCAAAAGATGTGAAAGGCGATATCATG 951 	
- H	952 AGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCT 1011	
ਜ ਜੋ		

```
The Rice Full-Length CDNA Consortium, National Institute of Agrobiological Sciences Rice Full-Length CDNA Project Team:, Kikuchi, S., Satch, K., Nagatea, T., Kawagashira, N., Doi, K., Kikhimoto, N., Yazaki, J., Ishikawa, H., Yamada, H., Ooka, H., Hotta, I., Kojima, K., Namiki, T., Ohneda, E., Yahagi, W., Suzuki, K., Li, C., Chotsuki, K., Shishiki, T., Foundation of Advancement of International Science Genome Sequencing & Analysis Group:, Otomo, Y., Murakami, K., Iida, Y., Sugano, S., Fujimura, T., Suzuki, Y., Tsunoda, Y., Murakami, K., Kurosaki, T., Kodama, T., Masuda, H., Kobayashi, M., Xie, Q., Lu, M., Narikawa, R., Sugiyama, A., Mizuno, K., Yokomizo, S., Niikura, J., Ikeda, R., Ishibiki, J., Kawamata, M., Yoshimura, A., Miura, J., Kusumegi, T., Oka, M., Ryu, R., Ueda, M., Matsubara, K., RIKEN:, Kawai, J., Carninci, P., Adachi, J., Aizawa, K., Arakawa, T., Fukuda, S., Hara, A., Hashidume, W., Hayatsu, N., Imctani, K., Ishii, Y., Itoh, M., Kagawa, I., Kondo, S., Konno, H., Miyazaki, A., Osaco, N., Ota, Y., Saito, R., Sasaki, D., Sato, K., Shibata, K., Shinagawa, A., Shiraki, T., Yoshino, M. and Hayashizaki, Y.
Collection, mapping, and annotation of over 28,000 cDNA clones from japonica rice
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12869'08

12869'08

12860'10', Aizawa,K., Akimura,T., Arakawa,T., Carninci,P., Doi,K., Fujimura,T., Fukuda,S., Hanagaki,T., Hara,A., Hashizume,W., Hyjamura,T., Fukuda,S., Hanagaki,T., Hara,A., Haranco,K., Hiramoto,K., Kanada,T., Kalahibki,J., Ishibixi,J., Ishikawa,N., Itoh,M., Kagawa,I., Kanagawa,S., Katoh,H., Kawagashira,N., Kanagawa,S., Katoh,H., Kayagashira,K., Kodama,T., Kojima,K., Kojima,Y., Kondo,S., Konno,H., Kouda,M., Koya,S., Kurihara,C., Kuroaski,T., Kusumegi,T., Li,C., Lu,M., Mazuda,H., Matsubara,K., Murata,M., Nakamura,K., Murata,M., Nakamura,M., Nakamira,M., Nakamira,M., Nakamira,M., Nakamira,M., Nakamira,M., Nakamira,M., Nakamira,M., Nakamira,M., Sakai,K., Sakai,K., Sakai,K., Sakai,K., Sakai,K., Sakai,M., Sakai,Y., Otomo,Y., Ryu,R., Sattoh,K., Sakai,K., Shinata,M., Sugano,S., Sugawa,A., Shiraki,T., Sagak,J., Satoh,K., Sagah,Y., Tagama,A., Suzuki,Y., Sasaki,D., Sato, K., Sagabe,Y., Sugano,S., Tayawa,A., Tagawa,A., Tagawa,A., Tagawa,A., Tagawa,A., Tagama,T., Tomaru,A., Tagawa,A., Tagaw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 URL: http://cdna01.dna.affrc.go.jp/cDNA/
NIAS Rice Full-Length cDNA Project Team: Kikuchi,S., Satch,K.,
Nagata,T., Kawagashira,N., Doi,K., Kishimoto,N., Yazaki,J.,
Ishikawa,M., Yamada,H., Ooka,H., Hotta,T., Kojima,K., Namiki,T.,
Ohneda,E., Yahagi,W., Suzuki,K., Li,C., Ohtsuki,K., Shishiki,T. and
Yamamoto,M.
PAIS Genome Sequencing & Analysis Group: Otomo,Y., Iida,Y.,
Fujimura,T., Ikeda,R., Ishibiki,J., Kawamata,M., Kobayashi,M.,
AKU67125
Oryza sativa (japonica cultivar-group) cDNA clone:J013098J09, full
insert sequence.
                                                                                                                                                                                                                                           AKÖĞ7125.1 GI:32977143
FLI CDNA, ÇAP trapper.
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Bukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta, Spermatophyta, Magnoliophyta, Liliopsida, Poales, Poaceae, Shrharcoideae, Oryza.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Agrobiological Sciences, Department of Molecular Genetics, Head of Laboratory of Gene Expression; 2-1-2 Kannondai, Tsukuba, Ibaraki 305-8602, Japan (E-mail:sikikuchi@mias.affrc.go.jp, Tel:81-29-838-7007, Fax:81-29-838-7007)
This clone is one of the 28K full-length cDNA clones from japonica
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yoshimura, A.
                                                                                                                                                                                                       AK067125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .2869764
                                                                                                                                                                                                                                                                                                                                                    SOURCE
ORGANISM
                                                    LOCUS
DEFINITION
                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
     AK067125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMMENT
```

```
The Rice Pull-Length CDNA Consortium, National Institute of Agrobiological Sciences Rice Full-Length CDNA Project Team:, Kikuchi, S., Satch,K., Nagata,T., Kawagashira,N., Doi,K., Kishimoto,N., Yazaki,J., Ishikawa,M., Yamada,H., Ooka,H., Hotta,I., Kojima,K., Namiki,T., Ohneda,E., Yahagi,W., Suzuki,K., Li,C., Ohtsuki,K., Shishiki,T., Foundation of Advancement of International Science Genome Sequencing & Analysis Group:, Otomo,Y., Murakami,K., Iida,Y., Sugano,S., Fujimura,T., Suzuki,Y., Tsunoda,Y., Murakami,K., Kurosaki,T., Kodama,T., Masuda,H., Kobayashi,M., Xie,Q., Lu,M., Narikawa,R., Sugiyama,A., Mizuno,K., Yokomizo,S., Niikura,J., Kusumegi,T., Oka,M., Ryu,R., Ueda,M., Matsubara,K., Riken, J., Kondo,S., Kohl,J., Alzawa,K., Azakawa,T., Puluda,S., Hara,A., Hashidume,W., Hayatsu,N., Imotani,K., Ishii,Y., Itoh,M., Kagawa,J., Kondo,S., Konno,H., Miyazaki,A., Osato,N., Ota,Y., Saito,R., Sasaki,D., Sato,K., Shibata,K., Shinagawa,A., Shiraki,T., Yoshino,M. and Hayashizaki,Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Oryzas ativa (japonica cultivar-group) cDNA clone:J023001G22, full insert sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Carninci, P., Doi, K., Fujimura, T., Fukuda, S., Hanagaki, T., Hara, A., Hashizume, W., Hayashidaki, Y., Hayasusu, N., Hiramoco, K., Hiraoka, T., Hori, F., Hori, T., Iida, J., Iida, Y., Ikeda, R., Imamura, K., Imotani, K., Ishibiki, J., Ishii, Y., Ishikawa, M., Itoh, M., Kagawa, I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AKO68892.1 GI:32978917
FLI_CDNA; CAP trapper.
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
BLKaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae; Oryza.
                                                                                                                                                                                                                                                                                                                                                                       838 CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGAC-----TTTGAGGATTTGTTT 891
        631 CCTCCTCAACCCGAGAAATCACCTCCTAATGCAACACCACCAAAGGTTGAGAGGCCATCA 690
                                                                                                                                                                                                            751 GGAACAACCGAGAAAGAAGCAGAGTCA------TCTTCTAATGATGATAGTGCA
                                                                                                             691 GTTGCACCACCTCCTAAGGTTGACTATGCAACTGATCTCTTCAACATGTTATCAATGGAT
                                                                                                                                                                                                                                                                TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAG
                                                                                                                                                                                                                                                                                                                      799 TGGGAGGGCTTCCAGTCTGCAGAGCCAGTACCTAGCTCAGACAAAAAGGATTCTGCTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            892 AAGGACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          919 GCTGTGACAGTATCCTCAGCTCCCCCACAAGTAATGTGAAGAATGTATATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    952 AGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     979 AGTCTGTTTGAGAAGTCCAGTATGGTTTCGCCATATGCTGTCCAGCAGCAGCAACTTGCT
                                                           GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                              GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                        859 ccagtagaaagtaaagccccagtctacatcaggcatagagacttgttaaagattcacca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Science 301 (5631), 376-379 (2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1012 ATGCTCGCTCAGCAGCA 1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1039 TTTATGACCCCCAGCA 1055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (bases 1 to 2157)
                                                                                                                                                                718
                                                           658
                                                                                                                                                                                                                                                                  778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                JOURNAL
MEDLINE
PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 8
AK068892
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCUS
                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                      음
                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                         ઠે
                                                                                                             셤
                                                                                                                                                              ò
                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
Kodama, T., Kurosaki, T., Kusumegi, T., Lu, M., Masuda, H., Miura, J., Mizuro, K., Narikawa, R., Niikura, J., Oka, M., Ryu, R., Sugano, S., Sugiyama, A., Suzuki, Y., Tsunoda, Y., Uded, M., Xie, Q., Yokomizo, S., Yoshimura, A., Matsubara, K. and Murakami, K. Genome Exploration Research Group in Riken Genomic Science Eaboracory in Riken. Adachi, J., Alzawa, K., Akimura, T., Arakawa, T., Carninoi, P., Fukuda, S., Hanagaki, T., Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraoka, T., Horii, F., Iida, J., Imamura, K., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kanagawa, S., Karnhor, B., Konno, H., Kouda, M., Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M., Nishi, K., Nomura, K., Numasaki, R., Ohno, H., Saltoh, H., Sakai, C., Sakai, K., Sakazume, N., Sano, H., Sasaki, D., Sato, K., Shibata, K., Shinagawa, A., Shiraki, T., Sabaki, D., Sato, K., Shibata, K., Shinagawa, A., Shiraki, T., Yasunishi, A. and Hayashizaki, Y., Tagami, M., Tagami, Takeda, Y., Tagawa, A., Takahashi, F., Yasunishi, A. and Hayashizaki, Y., Tomaru, A., Toya, T., Waki, K., Yasunishi, A. and Hayashizaki, Y.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGGACGCCCACCCAGGCCACATCAGCCAAAAGCACAACCATCAGTTCCCAAGGTTTCA 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATGGATACCGAGGAATGGGTCATCAAGACCATCATCTGGTGCTAGAGATGAGAAGAGC 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCA--GTAAATGTTGCACCA 657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTGCATTTATTCAATCAATGGGGAATGAAAAGTCAAATAGCTACTGGGAAGCGGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            argaacgagaaggccrccgrcrccaaggagcrcaacgccaagcacaagaagararrggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    103 Gecercerecereceredadanadadanerecerecaderedaderedadesereda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              creecegracarararecraacarececraecerecaracereceaeaecaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccccraactardaradecrredearadadaacrrearcccrecaaaraceagaadad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TTGTTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              511 TCATTTTGAGCAACACCGCACTTCACCAGCTGCAGTGAGCAAAATTGCTCCAGTGGTTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421 AAATCTGTGGAGAGAAGTGGGCCCGGGATATGAGCATGGACATAGTAGTAGTAGTGAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         463 TCAGAGTCACAAACTAGTGTTAACAGGGTGGCCATAATCAAAG-----ATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Oryza sativa (japonica cultivar-group)"
/mol_type="mRNA"
/cultivar="Nipponbare"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches 390; Indels 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1741;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 307; DB 8;
Pred. No. 4.1e-74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /db_xref="taxon:39947"
/clone="J013098J09"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21.1%;
59.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 59.24
Matches 614; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Bource
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

101

978

918 951

828

777 798 837

```
льициь95
Arabidopsis thaliana genomic DNA, chromosome 5, Pl clone:MDK4.
AB01695 BA000015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1032
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGTAGAAAGTAAGCCCCAGTCTACATCAGGCATAGAGGACTTGTTTAAAGATTCACCA 1152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1153 GCTGTGACAGTATCCTCAGCTCCAGCAGCCACAAGTAAATGTGAAGAATGATATCATG 1212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1213 AGTOTGTTTGAGAAGTCCAGTATGGTTTCGCCATATGCTGTCCAGCAGCAGCAACTTGCT 1272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     837
                                                                                                                                                                                                                                                                                                                                                                                                       636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              924
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  777
99 TGGGCAAGTGTAAATCTTGGGATCTTTATATGCATGCAGTGTTCTGGAATTCATAGAAGC 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Arabidopsis thaliana
Eukaryota, Viridiplantae, Streptophyta, Embryophyta, Tracheophyta,
                                                                                                                                                                                                                                              AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TIGITICAGGAGAGAAAACIAITCCAGCAICTAGAACAAGAATAAIGITGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGAACAACCGAGAAAGAAGCAGAGTCA------TCTTCTAATGATGATAGTGCA
                                                                                                                                   CTCGGGGTACATATATCTAAGGTAAGATCGGCTACCCTGGATACATGGCTGCCAGAGCAA
                                                                                                                                                                                                   GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                       CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG
                                                                                                                                                                                                                                                                                                                                                                              CCCCCTAACTATGATAGGGTTGGGATAGAGAACTTCATCCGTGCAAAATACGAGGACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ------ATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      805 AGGACGCCCACCACCACCATCAGCCAAAAGCACAACCATCAGTTCCCAAGGTTTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          865 cercercaaceceagaaareácerecraarecaacaeceaagerraaggeecarea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1033 TGGGAGGGCTTCCAGTCTGCAGAGCCAGTACCTAGCTCAGACAAAAAGGATTCTGCTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAGGTTGCT
                                                                   CTCGGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATGGATACCGAGGAATGGGTCATCAAGACCATCATCTGGTGCTAGAGAGAAGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421 AAATCTGTGGAGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rcarrragaccaacaccacarrcaccacacacacaacaaaarracrccacacarrrcr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATGCAGTCTGCAGCTACTCCAGTAGAGGGAGAAACAAGCA---GTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAAATTGTCACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCAC-----TTTGAGGATTTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    892 AAGGACACCTAATTTAACAACTCAACAAGACCAAAAAGATGTGAAAGGCGATATCATG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGAGTCACAAACTAGTGTTAACAGGGGTGGCCATAATCAAAG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Arabidopsis thaliana (thale cress)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1273 Trrargacccccacca 1289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1012 ATGCTCGCTCAGCAGCA 1028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AB010695.1 GI:2828180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1093
                                                                                                                                   457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    838
                                                                   181
                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                           577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AB010695/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 9
                                                                                                                                셤
                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        업
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                ð
                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Yamamoto, M.
Yamamoto, M.
Yamamoto, M.
Yamamoto, M.
Yamamoto, M.
Ramanoto, M.
Kodama, T., Ikeda, R., Ishibiki, J., Kawamata, M., Kobayashi, M.,
Kodama, T., Kursomegi, T., Lu, M., Masuda, H., Muura, J.,
Mizuno, K., Narikawa, R., Niikura, J., Oka, M., Ryu, R., Sugano, S.,
Sugiyama, A., Suzuki, Y., Tsunoda, Y., Ueda, M., Xie, Q., Yokomizo, S.,
Sugiyama, A., Matsubara, K. and Murakami, K.
Genome Exploration Research Group in Riken Genomic Sciences Center and Genome Exploration Research Group in Riken: Adachi, J., Aizawa, K.,
Hara, A., Hashizume, W., Hayashida, K., Hayatsu, N., Hiramoto, K.,
Hiraoka, T., Arakawa, T., Carninci, P., Fukuda, S., Hanagaki, T.,
Hiraoka, T., Hori, F., Iida, J., Imamura, K., Imotani, K., Ishii, Y.,
Itoh, M., Kagawa, I., Kanagawa, S., Katoh, H., Kawai, J.,
Kishikawa-Hirozane, T., Kojima, Y., Konho, H., Kouda, M.,
Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M.,
Nakamura, M., Nishi, K., Nomura, K., Nimasaki, R., Ohno, M., Gano, H.,
Sasaki, D., Sato, K., Shibata, K., Shinagawa, A., Sano, H.,
Sogabe, Y., Tagami, M., Tagami, Takada, Y., Toya, T., Waki, K.,
Yasunishi, A., and Hayashizaki, Y.
                        Kikuchi, S., Kishikawa Hirozane, T., Kishimoto, N., Kobayashi, M., Kodama, T., Kodima, Y., Kodima, Y., Kondo, S., Konno, H., Kouda, M., Koya, S., Kurihara, C., Kurosaki, T., Kohmo, H., Kouda, M., Koya, S., Kurihara, C., Kurosaki, T., Kushuedi, T., Li, C., Lu, M., Matsuda, H., Matsuda, T., Miyazaki, A., Mizuno, K., Murakami, K., Murata, M., Nagata, T., Nakamira, M., Namiki, T., Narikawa, R., Nikura, J., Nishi, K., Nomura, K., Numasaki, R., Otomo, Y., Ryu, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N., Sano, H., Sasaki, D., Sato, K., Satoh, K., Shibata, K., Shinagawa, A., Shiraki, T., Shishiki, T., Soqabe, Y., Sugano, S., Sugayama, A., Suzuki, K., Suzuki, Y., Tagami, M., Tagami-Takeda, Y., Tagami, M., Tagami-Takeda, Y., Tagami, M., Tanaka, T., Tomaru, A., Towa, A., Takahashi, F., Takaku, Akahira, S., Tanaka, T., Tomaru, A., Yanada, H., Yamamoto, M., Yasunishi, A., Yazaki, J., Yokomizo, S. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            URL : http://cdna01.dna.affrc.go.jp/cDNA/
NIAS Rice Full-Length cDNA Project Team: Kikuchi,S., Satoh,K.,
Nagata,T., Kawagashira,N., Doi,K., Kishimoto,N., Yazaki,J.,
Ishikawa,M., Yamada,H., Ooka,H., Hotta,I., Kojima,K., Namiki,T.,
Ohneda,E., Yahagi,W., Suzuki,K., Li,C., Ohtsuki,K., Shishiki,T. and
Ohneda,E., Yahagi,W., Suzuki,K., Li,C., Ohtsuki,K., Shishiki,T. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Direct Submission
Submitted (05-DE2-2001) Shoshi Kikuchi, National Institute of Agrobiclogical Sciences, Department of Molecular Genetics, Head of Laboratory of Gene Expression; 2-1-2 Kannondai, Tsukuba, Ibaraki 1505-602, Japan (E-mall:sKikuchi@nias.affrc.go.jp, Tel:81-29-888-7007, Fas.81-29-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-838-7007, Fas.81-20-800, Fas.81-20-800, Fas.81-20-800, Fas.81-20-800, Fas.81-20-800, Fas.81-20-800, Fas.81-20-800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          277 ATGAACGAGAGGCCTCCGTCTCCAAGGAGCTCAACGCCAAGCACAAGAAGATATTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACGACAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             organism="Oryza sativa (japonica cultivar-group)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches 390; Indels 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 2157;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 307; DB 8;
Pred. No. 4.2e-74;
Kanagawa, S., Katoh, H., Kawagashira, N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="mRNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone="J023001G22"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          21.1%;
59.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 614; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Yoshimura, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
```

셤 ð g ò

ઠે

JOURNAL MEDLINE

PUBMED

REFERENCE AUTHORS

TITLE

REFERENCE AUTHORS TITLE JOURNAL

COMMENT

```
/evidence=not_experimental
/protein_id="BAB10745.1"
/db_xxef="G1:975945.1"
/translation="MGSKLLVAFTLIVMTISYDLFTGIGIDARTVPPTCYESCNAT
FQNPECNKMCVGLAXKDGSCIXPPPEVDGLPPKRPYFPRCCCNPIILSPPSP"
complement (join (19119. 19815, 20148. .20277, 20475. .20607))
/codon_starf=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /translation="WATEORFTRAGRESRDSSSVGYYSEEDNTEEEDEEEEBMEBIEE
BEBEEEBEBPRIGLTCGGRRNGSSNNNKWMLGRILDPRSKWVREWNKVFLLVCATGL
PUPLELYTLLSVSDTCMCLLJVDGMLALTTTALRSWTDLLHLWNIWIOFKIARWPYD
GDSDGDTNKGGSTRVARPYKKNGFFFDLFVILPLPQVLWWVIPSLLKKGSVT
LVVSVLLVTFLPQYLPKTYHSIRHLRRNATLSGYIFGTVWWGIALNMIAYFVAAHAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /translation="MSVMQQNLSVEPKSKGRRIDSBINNSSSSTNCDHFFVRYGICCN CRSNVERHRGRSPDYLVDGLQLSDIAVTRYTYTQTTCFNDKCLHUYLDLOHTLIHT WISNLTREETYLIBEBDSREDLRINGGYSSEFLIKLRFPVHEFLKEANKMFSMYVY TMGDRDYAMVLINILDBEKYYFGDRVITRNSSPYIKTLDLVLADECGVVIVDDTPHVW PSDKRRNLLBITKYNYFSDKTRHDVKYTKSYAEKRDESRNDGSLANVLKVIKQVEGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /product="Myb-related transcription factor-like protein" /product="Myb-related transcription factor-like protein" /brotein id="BAB10746.1" /bp.cein id="BAB10746.1" /bp.cein id="BAB10746.1" /bp.cein id="MGKSSSEESEVKKGPWTPEEDEKLVGYIQTHGPGKWRTLPKNAGIKRGEKSEESEVKKGPWTPEEDEKLVGYIQTHGPGKWRTLPKNA GIKRGKSCRIKWTWYKKLENGIDPVTHCPRINILGLSSFLISSLFKSMSOPMWIPPDLTTS BIRNYWHTTASLFKSMSOPMOTPPDLTTS GDYHSYTGTGDPSNNKVPQAGNYSSAAFVSDHINDGENFKAGWNFSSSMLAGTSSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /translation="wapriftcrovkgsststttgkgisghnaanvaadvpvgdgpil
volessogcktspeaemlysrlgrodpokirrdgsssgspamvlvfhvdywdylgwk
dpygssowtvrokayiealnodtmftpofvvogrvollgneeesllksiveaprfpsp
afratforptsetlovsltgalrmkvdssgidimvalyenglyndcargensgrvlsn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DYVVRKLEKLCTVKDLTGKKTVSGTAHFTVWDGFNSSKCGVAVFLQNTSLQIFGTQSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complement (join(28446. .28599,28632. .29196,29427. .29513,
29616. .29852.29936. .30044,30279. .30592,31260. .31475,
32131. .32733))
                                 .10026,10127. .10259,10309. .10440,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'codon start=1
evidence=not experimental
product="cyclic nucleotide and calmodulin-regulated ion
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            join(14111. .14183,14300. .14517)
/note="unnamed protein product; gene_id:MDK4.4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   complement(join(26101..26460,26735..27223))
/note="unnamed protein product; gene_id:MDK4.6
                                                                                                                                                                                                                                                                                           /evidence=not_experimental
11374. .12294
/note="unnamed protein product; gb|AAF34842.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TPLNSSSTFYVNGGSEDDRESFGSDMLMFHHHHHHHHNNALNLS"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              strong similarity to unknown protein"

/codon_start=1

/evidence=not_experimental

/protein_id="BAB10747.1"

/db_xref="G1:9759497"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FSGGVEKDLDIDSKDVRLLLHDARRPKFYC"
                                                                                                                                                                                                                                                                                                                                                                                                                                         gene id:MDK4.3
similar to unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /evidence=not experimental
/protein_id="BAB10744.1"
/db_xref="GI:9759494"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein_id="BAB10748.1"
         'note="gene_id:MDK4.7"
GEKEVRYFLRKLGILDVHAPT"
                                                                                                                      /note="gene_id:MDK4.2
unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                'db_xref="GI:9759498"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         unknown protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       codon start=1
                                                                                                                                                                                                                                                               codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |T05759
                                     oin(9646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDS
                                          SCOS
                                                                                                                                                                                                                                                                                                                                                        CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Address for correspondence: *RoseMeazusa.or.jp
Address for correspondence: *RoseMeazusa.or.jp
For the latest information on amnotation of this clone, please see
http://www.kazusa.or.jp/kaos/cgi-bin/agd_graph.cgi?c=MDK4
Genes with similarity to proteins in the databases are described in
'product' or 'note' qualifiers. Genes that have no significant
protein similarity are described as 'unknown protein'.

The software programs used to predict genes include: Grail
(Informatics Group, Oak Ridge National Laboratory,
http://compbis.ornl.gov/Grail-1.3/),
GENSCAN (Chris Burge, MIT, http://CR.081.mit.edu/GENSCAN.html),
NetGene2 (S.M. Hebsgaard, et al., CBS, Technical University of
Denmark, http://www.cbs.dtu.dk/services/NetGene2/) and
SplicePredictor (Volker Brende), Stanford University,
http://gremlinl.zool.iastate.edu/cgi-bin/sp.cgi).
Genes encoding RRNs are predicted by tRNAscan-SE
(Sean Eddy, Washington University School of Medicine, St. Louis,
http://genome.wustl.edu/eddy/tRNAscan-SE/).
This sequence may not be the entire insert of this clone. It may be
shorter because we remove overlaps between neighboring submissions.
The S' clone is Ki8Gi3 and the 3' clone is GA469.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          / translation="Waddappppsvievrrtispydltaadnsgavishpilktnnye
| tshedvarlarsrkkgfeldgtipoplogspoledwitinallyswkkktidselltn
| ishedvardimegotrreprocesticoptipoplogspoledwitinallyswkkktnidselltn
| ishedvardhromedledwidtheredesgaviktnktndnin
| syrplrigatheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredwidtheredw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LHKSLYGIKGAPRCMPSKLSSALKQYGFTQSLSDYSLFSYNNDGVFVHVLVYVDDLII
SGSCPDAVARFKSYLBSCFHMKDLGLLKYFLGIEVSRNAQGFYLSQRKYVLDIISEMG
LLGARPSAFPLEQNHKLSLSTSPLLSDSSRYRRLVGRLIYLAVTRPELSYSVHTLAQF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MORPRODHWAAIRVVRYLKSNPGOGIILSSTSTLQINGWCDSDYAACPLTRRSLTGY
FVOLGDTPISWKTKKQPTVSRSSAEAEYRAMAFLTQELMWLKRVLYDLGVSHVQAWRI
FSDSKSAIALSVNPVQHERTKHVEVDCHFIRDAILDGIIATSFVPSHKQLADILTKAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PVAKMSTVRLFLGVAAARDWHVHQMDVHNAFLHGDLKEEVYMKLPQGFQCDDPSKVCR
                                                                                                                                    Kaneko, T., Kotani, H., Nakamura, Y., Sato, S., Asamizu, E., Miyajima, N.
                                                                                                                                                                                                                                                                             twenty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Submitted (28-JAN-1998) Yasukazu Nakamura, Kazusa DNA Research Institute, Department of Plant Gene Research; 1532-5, Yana, Kisarazu, Chiba 292-0812, Japan (E-mail:ynakamu@kazusa.or.jp, Tel:81-438-52-3935, Pax:81-438-52-3934)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /ecotype="Columbia"
complement (join (4967. .6553,6955. .8195,8901. .9402))
/note="gene id:MDK4.1"
/codon_start=1
                                                                                                                                                                              Structural analysis of Arabidopsis thaliana chromosome 5. V. Sequence features of the regions of 1,381,565 bp covered by one physically assigned P1 and TAC clones DNA Res. 5 (2), 131-145 (1998)
    Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /evidence=not_experimental
/product="retroelement pol polyprotein-like"
/protein_id="BAB10743.1"
/db_xref="GI:9759493"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1. .78596
Corganism="Arabidopsis thaliana"
/mol type="genomic DNA"
/db_xref="taxon:3702"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          clone="MDK4"
clone lib="Mitsui P1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     chromosome="5"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (bases 1 to 78596)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nakamura, Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                            9679202
```

source

FEATURES

CDS

```
60403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60163
                                                                                            61063
                                                                                                                                                                                         61003
                                                                                                                                                                                                                                                                                     60943
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    60643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60343
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60043
61182 CTTTTGAAAATGCTTTGGAGTAATAGATTAATTTCTGAATCCTAAAACTGTAGCTGCTGG 61123
                                                                                                                                                                                                                                                                                                                                                                                  60883
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60103
                                                                                                                                            920
                                                                                                                                                                                                                                        964
                                                                      60462 AAGATCAATATTACCATTGACCAAAGTTCTTGCAAAATTCTCACTAATTCTTGCTCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACACCTAATTTAACAACTCAACA
                                                                                                                                                                                                                                                                                                                                                                                    60942 AATTATATATGCTTCTCAGATTTCACTGCTTTGTTGATATTCAGCTTTCCAAGTTTCGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60822 TATCACTTACTATGATTTCTTCAACACGGGACATTTGGAACACCCAGAGCAGATTCAAGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCAGCAACAGGTTGCTATGCTCGCTCAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60702 TCAGCAACAGGTTGCTATGCTCGCTCAGCAAGCCCTTTACATGGCTGCAGCGAAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1116 TTCTGCAAATTGGTCAAACCCCGGCGGCTACCAGATCCCCGGAATGACTCAACCCCGTAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               regreaagergarerecagaaacrrarecaagraagarereceerrracrrrrraage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ----AACATGAATATGAACGCAAACATGAACACGAGACCCGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60282 GITIGITICITCIGAAAACAICAIAACGITAICAAAAGIGCITAACCIAACIAACICICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---CAGTTCTACACAATGGGTCAAGCTAATCAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TATGATCTTTGGTTGTTATTAATAATGCAGTTTCTACACAATGGGTCAAGCTAATCAAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCTGCTGAGAGCAGTTCTCCTCC
                                                                                                                                                                                                                                           TGCTGGAGGCACTCCAAACGGCGTGAATCAACAAGCTATTGCTAATGCTCTTAACGTAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1176 TGGTCAAGCTGATCTCCAGAAACTTATGCAA------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1056
                                                                                               61122
                                                                                                                                                                                           61062
                                                                                                                                                                                                                                                                                        61002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60222
                                                  801
                                                                                                                                            861
                                                                                                                                                                                                                                           921
                                                                                                                                                                                                                                                                                                                                       965
                                                                                                                                                                                                                                                                                                                                                                                                                                    965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  50162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                            g
                                                                                                                                                                                 g
                                                                                                                                                                                                                                   8 8
                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                          qq
                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                               8
                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ે
                                                                                                                                                                                      join(35464. .35471,35682. .35817,36015. .36172,36315. .36405, 36528. .36447,36728. .36796,36652. .36956,37045. .37147, 37147, 371447. .371447, 371447. .371447, 371447. .371447, 371447. .37148. .371476. .37182, 37182, 38000. .38122,38111. .38271,38753. .38835,38979. .39092, 39212. .39289,39376. .39447,39534. .39766,39879. .40002, 40161. .40164,40479. .40511) //octer=memb|CAB50793.1 //octe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61242 GATAATCTAACATCGTGGCACATTTTTCCTATCCTTGTTAACTTTATGTCAATTGTTCTT 61183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /translation="MSREDFSDTLRVLVATDCHLGYMEKDEIRRHDSFKAFEEICSIA
BEKOUPPLLLGGOLFHENKPSRTTLVKAIBILERHCLMBYRVDFOVVSDOVSDOTVNFONAF
GQONNYEDPHFRVGLEPFSITHGANDBAGAIDILSACHLNNYFGROWLGGSGVG
GITLYPILMKKGSTTVALYGLGNIRDERLARMFGTPHAVOMMRPEVOEGCDVSDWFNI
TVHQNRVKNSNRVANAISHFLERFLDFFVWGHREFGLIDDGSVGGMFHTIQPGSSVA
TSLIDGSSKPKHYLLLBIKGNYRPTKIPLTSVRPFEYTBIVLKDESDIDPNDONSIL
BHLDKVVRNLIBKASKKAVNRSEIKLPLVRIKVDFSGFMTINPQRFGQKYVGKVANPO
DITIFSKASKKRSEANIBELNQOTNETRALVASSINAMEILEVVDLDJVALH
NFVNKDDKLAFYSCOYNLOFFRGKLAKDSDAKKFEEDDLIIKVGECLEERLKORSTF
PTGSSQPLSTGLTSSNLTKGSSGTANASFSDDENTTGWSGLAPPTRGRRGSSTANTTR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /product="Lhcb3 chlorophyll a/b binding protein"
/product="Lhcb3 chlorophyll a/b binding protein"
/protein id="BAB10750.1"
/db xref="d1:979500"
/translation="WASTFTSSSVI.PPTTFLGQTKASSFNPLRDVVSLGSPRYTMGN
DLMYGPRYVKTIGFPSYLOFPSYLOFPSPGDYGWDTAGLSADPBAFAKNRALEVHGRW
AMLGAFGCTTPFEVLGGWVRVDFREPWBFRAGSQ1FSEGGLDYLGNPRLVHAGSILAVL
GPGVILMGLVEGFRINGLDGVGEGNDLYPGGQYFDPLGIADDPVTFAELKVKEIKNGR
                                                                                               CDRVKSLIFTKGETIQKEGDAVQRMLFVVRGHLQSSQLLRDGVKSCCMLGPGNFSGDE
LLSWCLRRPFVERLPPSSSTLVTLETTEAFGLDAEDVKYVTQHFRYTFVNEKVRRSAR
YYSPGWRTWAAVAVQLAWRRYKHRLTLTSLSFIRPRRPLSRCASLGEDKLRLYAAILT
                           RSVCLDINTNYTYGAYQWTIQLVSSESRLEKILPPIFWGLMTLSTFGNLESTTEWSEV
VPNIIVLTSGLLLVTMLIGNIKVPLHATTSKKOAMHLKMRNIEWWKKRHLPIGFROR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GRAKAPTRGRCRGKASSAMKOTTLDSSLGFROSQRSASAAASAA FKSASTIGEDDVDS
PSSEEVEPEDFNKPDSSSEDDESTKGKGRKRPATTKRGRGRGSGTSKRGRKNESSSSL
NRLLSSKDDDEDEDDEDREKKLANKSQPRVTRNYGALRR"
                                                                      VRNYERQRWAAMRGVDECEMVQNLPEGLRRDIKYHLCLDLVRQVPLFQHMDDLVLENI
     ACWYLLGVQRSAKCLKEQCENTIGCDLRMLSCKEPVYYGTTVMVLDRARLAWAQNHQ?
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AACAAGCAGTAAATGTTGCACCAGCATCAGATCCTCCAAAGGTGGATTTTTGCTACTGATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --CTGCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTCAGGTTATAAAGCCACACAGCAGAAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1; Indels 581;
                                                                                                                                                                                                                                                                                                                                                                                                           /evidence=not_experimental
/products=nDM repair and meiosis protein Mrell"
/protein_id==BBB10749.1"
/db_xref==GI:9759499"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 join(41186. .41311,41410. .41571,41636. .42145)
/hote="qb|AAD28773.1
gene_id:MDK4.9"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8; Length 78596;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATACTCCTGCCGATGATAACTCATGGGCTGGCTTTCAGT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 255.4; DB 8
Pred. No. 1.2e-59;
0; Mismatches 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 60.1%;
Matches 877; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             794
                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
```

8 8 8 8 8 8 8 8 8 8 8

ö

Gaps

ö

Length 270;

151

211 120 271 180 331

```
2. (bases 1 to 3504)

Strausberg, L., Feingold, E.A., Grouse, L.H., Derge, J.G., Klusner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D., Altschul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N.K., Hopkins, R.F., Jordan, H., Moure, T., Wax, S.I., Wang, J., Hsieh, F., Diatchenko, L., Marusina, K., Farmer, A.A., Rubin, G.M., Hong, L., Staplecon, M., Soares, M.B., Bonaldo, M.F., Casavant, T.L., Scheetz, T.E., Brownstein, M.J., Uddin, T.B., Toshiyuki, S., Abramson, R.D., Mullahy, S.J., Boask, S.A., McWan, P.J., McKernan, R.J., Malek, S.S., Loquellano, N.A., Peters, G.J., McKernan, K.J., Malek, S.G., Garcia, A.M., Gay, L.J., Hulyk, S.W., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W., Fahey, J., Helton, B.W., Sodergren, E.J., Lu, X., Gibbs, R.A., Buffard, G.G., Blakesley, R.W., Touchman, J.W., Green, E.D., Butterfield, Y.S., Krzywinski, M.I., Sallska, U., Smallus, D.E., Schnerch, A., Schein, J.E., Jones, S.J. and Marra, M.A. Generation and initial analysis of more than 15,000 full-length human and mouse CDNA sequences
12477932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BC077937 3504 bp mRNA linear VRT 20-SEP-2004 Xenopus laevis MGC80897 protein, mRNA (cDNA clone MGC:80897
                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Merazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Amphibia, Batrachia, Anura, Mesobatrachia, Pipoidea, Pipidae,
Xenopodinae, Xenopus, Xenopus

    (bases 1 to 3504)
    Klein, S.L., Strausberg, R.L., Wagner, L., Pontius, J., Clifton, S.W. and Richardson, P.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genetic and genomic tools for Xenopus research: The NIH Xenopus
                                                                                                                                                                                                                                          CCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGGGAAATGATA
                                                                                                                                                                                                                                                                                                                GCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGGTTCGATCTG
                                                                                                                                                                                                                                                                                                                                                              272 AAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGAGTTGGAATTGAGA
                                                                                                                                                GTGCTGACTGCAAAACAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTATCTTTATCT
                                                                                                                                                                                  44; Indels
                                                                              DB 6;
                                                                             Score 199.6; DB 6
Pred. No. 3.4e-44;
0; Mismatches 44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 ATTICATCCGTGCAAAATATGAGGACAAGA 270
                                                                                                                                                                                                                                                                                                                                                                                                                                      332 ATTTTATACGTGCAAAGTATGAAGAGAAGA 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Dev. Dyn. 225 (4), 384-391 (2002)
            /organism="unknown"
/mol_type="genomic DNA."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAGE:5515434), complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BC077937.1 GI:50417733
                                                                              Query Match
Best Local Similarity 83.7%;
Matches 226; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      12454917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BC077937
                                                                                                                                                      8
                                                                                                                                                                                                                                                                                              212
source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PUBMED
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 12
BC077937
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                 ORIGIN
                                                                                                                                                                                       g
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PAT 20-DEC-2002
                                                                                                                                       PAT 30-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                           Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        34 Argaacgagaaggcgrccgrcrccaaggagcrcaacgccaagcacaagaagararrggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             94 GGTCTTCTACGGCATCCTGAGAATAGAGAATGCGCAGACTGCAAGTCAAAGGGTCCTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 237.2; DB 6; Length 371;
Pred. No. 1.1e-54;
0; Mismatches 63; Indels 0;
                                                                                                                                                                                                                                                                                                                  Shimkets, R.A. and Leach, M.D.
Human polymucleotides and polypeptides encoded thereby
Patent: WO 019553-A 21197 06-DEC-2001,
Curagen Corporation (US)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         linear
                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 CCCCCAAACTATGATAGAGTTGGAAATTTTAT 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNA
                                                                                                                                     CQ455437 371 bp DNi
Sequence 21197 from Patent WO0192523.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         270 bp D
US 6476212.
                                                                                                                                                                                                                                                                                                                                                                                                                                           /mol_type="unassigned DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                            /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                                                 60042 AATGITCACAAAACATTGA 60024
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AR245215
Sequence 574 from patent
AR245215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AR245215.1 GI:27293089
                                                                                                                                                                                             CQ455437.1 GI:41421949
                    1434 AATGTTCACAAACATTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16.3%;
81.4%;
                                                                                                                                                                                                                               Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 81.49
Matches 275; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Unclassified
                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                          DEFINITION
                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                ORGANISM
                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 11
AR245215
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
JOURNAL
FEATURES
                                                                                                      RESULT 10
                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                     CQ455437
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                               SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
```

```
Strausberg, R.L., Feingold, E.A., Grouse, L.H., Derge, J.G.,
Klausner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D.,
Altschul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N. K.,
Hopkins, R.F., Jordan, H., Moore, T., Max, S.I., Wang, J., Hsieh, F.,
Diatchenko, L., Marusina, K., Farmer, A.A., Rubin, G.M., Hong, L.,
Stapleton, M., Soares, M.B., Bonaldo, M.F., Casavant, T.L.,
Scheetz, T.E., Brownstein, M.J., Usdin, T.B., Toshiyuki, S.
Carninci, P., Prange, C., Raha, S.S., Loquellano, N.A., Peters, G.J.,
Abramson, R.D., Mullahy, S.J., Bosak, S.A., McEwan, P.J.,
Morkernan, K.J., Malek, J.A., Gunarane, P.H., Richards, S.,
Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W.,
Villalon, D.K., Muzny, D.M., Sodergren, E.J., Lu, X., Gibbs, R.A.,
Fahey, J., Helton, E., Ketteman, M., Madan, A., Young, A.C., Shevchenko, Y.
Bouffard, G.C., Blakesley, R.W., Touchman, J.W., Green, E.D.,
Butterfield, Y.S., Krzywinski, M.I., Skalska, U., Samilus, D.E.,
Schnerch, A., Schein, J.E., Jones, S.J. and Marra, M.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Klein, S. and Gerhard, D.S.
Direct Submission
Submitted (14-JUN-2004) National Institutes of Health, Xenopus Gene Collection (XGC), National Institute of Child Health and Human Development, 6100 Executive Boulevard, Room 4B01, Rockville, MD 20892-7510, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BC073437 178 bp mRNA linear VRT 03-AUG-2004
Xenopus laevis hypothetical protein LOC443647, mRNA (cDNA clone
                                591
                                                                                        262
                                                                                                                                                                                                  GAAATGATAAAGCAAATAGTTACTGGGAAGCAGGGGCTACCCCCAAACTATGATAGAGTTG 322
                                                                                                                                                                                                                                                       652 GAAATACAAAGGCAAGACGTATATACGAAGCTAATCTGCCAGAAAACTTCCGAAGACCTC 711
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Kenopus; Xenopus.

I (bases I to 778)

Klein, S.L., Strausberg, R.L., Wagner, L., Pontius, J., Clifton, S.W. and Richardson, P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Genetic and genomic tools for Xenopus research: The NIH Xenopus
TITITATGTGCATTCGTTGTGCTGGAATTCATAGAACCTTGGAGTTCATATCAAGAG
                                                                                                                                             592 igaaaicigitaaitiggatcaaiggactccagaacaaaitcagigcaigcagataigg
                                                                                     TTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Natl. Acad. Sci. U.S.A. 99 (26), 16899-16903 (2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Igor Dawid
CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Genome Sequence Centre,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dev. Dyn. 225 (4), 384-391 (2002)
12454917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human and mouse cDNA sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MAGE: 5516053), partial cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BC073437.1 GI:49116706
                                                                                                                                                                                                                                                                                                                  323 GAATTGAGAATTTTAT 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: XGC help desk
                                                                                                                                                                                                                                                                                                                                                                       712 AGACTGATCAATCTGT 727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (bases 1 to 778)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (bases 1 to 778)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NIH-MGC Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus laevis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 initiative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2477932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BC073437
                                                                                           203
                                   532
                                                                                                                                                                                                        263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 13
BC073437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REMARK
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                 g
                                                                                           ò
                                                                                                                                             g
                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LINL at: http://image.llnl.gov Series: IRAK Plate: 155 Row: g Column: 13
This clone was selected for full length sequencing because it passed the following selection criteria: Hexamer frequency ORF analysis, Similarity but not identity to protein.
                                                                   Submitted (19-JUL-2004) National Institutes of Health, Xenopus Gene Collection (XGC), National Institute of Child Health and Human Development, 6100 Executive Boulevard, Room 4B01, Rockville, MD 20892-7510, USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Andy Chan, Steve Jones, Starb Barber, Mabel Brown-John, Yaron Butterfield, Andy Chan, Steve S. Chand, William Chow, Alison Cloutier, Ruth Featherstone, Malachi Griffith, Obi Griffith, Ran Guin, Nancy Liao, Kim MacDonald, Amara Masson, Mike R. Mayo, Josh Moran, Ryan Morin, Teika Olson, Diana Palmquist, Anca Petrescu, Anna Liisa Prahbu, Parvaneh Saeedi, JR Santos, Angelique Schnerch, Ursula Skalska, Buane Smailus, Jeff Stoct, Miranda Tsai, George Yang, Jacquie Schein, Asim Siddiqui, Rob Holt, Marco Marra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /translation="MTTRSEREKAQKLNEQHQAILSRMLREEDNKYCADCEAKGPRWA
SWNLGVFMCTRCAGIHRNLGVHISRVKSVNLDQWTPEQIQCMQDMGNTKARRIYBANL
PENFRRPQTDQSVEFPIRDKYERKKYYDKNATVSGTKEKDKKKEERRKEREPEKNVKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GPMVSNPI PVSAAPPTQVTSTNPASSTVSSSSGDLDLFTDQTTKTEDTQKKPLSKDSI
LSLYGTANMQQONTTGMFMGSSPMPYSAQPSASFQAFPSMGVPLAAGGIMGNMMGPSV
PGMGTECWDDGRNGYA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VGADKVLKKELPLEVKASPKKSPELTVDLLGLDAPVEAPALNGNTSATAAVNDDLDIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     143 TCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGG 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             472 ACAAGTATTGTGCTGACTGTGAAGCAAAAGGTCCTAGGTGGGCTTCCTGGAACCTAGGAG 531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          412 crcacaacreaarcaccaccarcracreccedarcriceceaacaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAGAGAATGTGCTGATTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAAGGGCTTCTTAAACATCCAGAGA
                                                                                                                                                                                                                                                          Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Dr. Igor Dawid
CDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LINL)
DNA Sequencing by: Genome Sequence Centre,
BC Cancer Agency, Vancouver, BC, Canada
info@bcgsc.bc.ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 111.2; DB 5; Length 3504;
Pred. No. 1.7e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="mRNA"
/bb xxef="texxon:8355"
/clone="MGC:80897 IMAGE:5515434"
/tissue_type="Embryo, stage 31/32, Xenopus"
/clone lib="NICHD XGC_Emb4"
/lab host="bH108"
/note="Wector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches 128; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'codon start=1
'product="MGC80897 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .3504
/organism="Xenopus laevis"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              procein_id="AAH77937.1"
|db_xref="G1:50417734"
|db_xref="LocusID:446881"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             db_xref="LocusID:446881"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene="MGC80897"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gene="MGC80897"
           (bases 1 to 3504)
Clein, S. and Gerhard, D.S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                        NIH-MGC Project
Contact: XGC help desk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .1436
                                                             Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .3504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   188;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
        REFERENCE
AUTHORS
                                                             TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                        REMARK
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
```

g

ò

a ઠે

δ

```
Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 (bases 1 to 554)
Strausberg, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12477932
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
COCUS
                                                                                                                                                   ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     JOURNAL
MEDLINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                           ACCESSION
                                                                                                                                                                                                                 REFERENCE
                                                                                  VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REMARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                    Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LIANL at: http://image.llnl.gov Series: IRAK Plate: 155 Row: k Column: 7 This clone was selected for full length sequencing because it passed the following selection criteria: Hexamer frequency ORF analysis, Similarity but not identity to protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /db_xref="LocusID:443647"
franslat.ton="MTTRSEREXAGKINEQHQAILSRMLREDDNKYCADCEAKGPRWA
fwrm.cypricircacintrancyHisRVKSVNLDQWTPEQIQCMQDMGNTRARQKYEANL
QENFRRPQTDQSVEFPIRDKYEKKKK"
                  info@bcgsc.bc.ca, Sarah Barber, Mabel Brown-John, Yaron Butterfield, Andy Chan, Steve S. Chand, William Chow, Alison Cloutier, Ruth Andy Chan, Steve S. Chand, William Chow, Alison Cloutier, Ruth Kentherstone, Malachi Griffith, Obi Griffith, Ran Guin, Nancy Liao, Kim MacDonald, Amara Masson, Mike R. Mayo, Josh Moran, Ryan Morin, Teika Olson, Diana Palmquist, Anca Petrescu, Anna Liisa Prahbu, Parvaneh Saeedi, JR Santos, Angelique Schnerch, Ursula Skalska, Buane Smailus, Jeff Stott, Miranda Tsai, George Yang, Jacquie Schein, Asim Siddiqui, Rob Holt, Marco Marra.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      crcadaadcrdaardadcadcarcadccarcrrgrccaddargcrccgcgaggardaca 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  83 ACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTA 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           482 ACAAGTATTGTGCTGACTGTGAGGCAAAAGGTCCTAGGTGGGCTTCCTGGAACTTAGGGG 541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   542 TTTTTATCTGCATTCGTTGTGCTGGAATTCATAGAAACCTTGGAGTTCACATATCAAGAG 601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGAGTTG 322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         143 TCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               203 ITCGATCTGCCACTCTGGACACATGGCTCCCCGAGGTGGCAGTTGCATTATACAGTCAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          602 igazaricegrizaringgarczariegacrecegazeariczagiecarecaegearanes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTAAGGAGCTTAATGCCCGCCATAGAAGATTCTTGAAGGGCTTCTTAAACATCCAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7.5%; Score 109.6; DB 5; Length 778; 59.2%; Pred. No. 4.5e-19; Live 0; Mismatches 129; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                 /.organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="texon:8355"
/clone="INAGE:5516053"
/tissue type="Embryo, stage 31/32, Xenopus"
/lab host="bhlos"
/lab host="bhlos"
/note="Vector: pCMV-SPORT6"
Cancer Agency, Vancouver, BC, Canada
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   codon_start=1
product="LOC443647 protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /db_xref="LocusID:443647"
394. .>778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 protein id="AAH73437.1"

/db xref="GI:49116707"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /gene="LOC443647"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene="LOC443647"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAATTGAGAATTTTAT 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       722 AAACTGATCAATCTGT 737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . >778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 187; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                       source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CDS
                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
```

```
Light Straubberg 1.C. Feingold E.A., Grouse, L.H., Derge, J.G., Klausner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D., Klausner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D., Altschul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N.K., Hopkins, R.F., Jordan, H., Moore, T., Wax, S.I., Wang, J., Haieh, F., Diatchenko, L., Marusina, K., Farmer, A.A., Rubin, G.M., Hong, L., Stapleton, M., Soares, W.B., Bonaldo, M.F., Casavant, T.L., Scheetz, T.E., Brownstein, M.J., Usdin, T.B., Toshiyuki, S. Carninci, P., Prange, C., Raha, S.S., Loquellano, N.A., Peters, G.J., Morenton, R.D., Mullahy, S.J., Bosak, S.A., McEwan, P.J., Morkernan, K.J., Malek, J.A., Gunartne, P.H., Richards, S., Worley, K.C., Hale, S., Garcia, A.M., Gay, L.J., Hulyk, S.W., Villalon, D.K., Muzny, D.M., Sodergren, E.J., Lu, X., Gibbs, R.A., Fahey, J., Helton, E., Ketteman, M., Madan, A., Rodrigues, S., Sanchez, A., Whiting, M., Madan, A., Youug, A.C., Shevchenko, Y., Butterfield, Y.S., Krzywinski, M.I., Skalska, U., Smailus, D.E., Schnerch, A., Schein, J. B., Jones, S.J. and Marra, M.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LINL at: http://image.llnl.gov Series: IRAK Plates 13 Row: d Column: 9 This clone was selected for full length sequencing because it passed the following selection criteria: matched mRNA.gi: 21264557.
                                         PRI 16-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Contact: amg@bcm.tmc.edu
Gunaratne, P.H., Garcia, A.M., Lu, X., Hulyk, S.W., Loulseged, H.,
Kowis, C.R., Sneed, A.J., Martin, R.G., Muzny, D.M., Nanavati,
A.N., Gibbs, R.A.
                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
1 (bases 1 to 554)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (25-WAY-2001) National Institutes of Health, Mammalian Gene Collection (MGC), Cancer Genomics Office, National Cancer Institute, 31 Center Drive, Room 11A03, Bethesda, MD 20892-2590,
554 bp mRNA linear PRI 16-SEP.
Homo sapiens stromal membrane-associated protein 1, mRNA (cDNA clone IMAGE:3856134), partial cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NIH-MGC Project URL: http://mgc.nci.nih.gov
On Aug 25, 2003 this sequence version replaced gi:16306911.
Contact: MGC help dessk
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: DCTD/DTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA Library Preparation: Life Technologies, Inc.
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Baylor College of Medicine Human Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Proc. Natl. Acad. Sci. Ū.S.A. 99 (26), 16899-16903 (2002)
223388257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /tissue type="Ovary, adenocarcinoma"
/clone lib="NTH MGC_66"
/lab host="DH10B"
/note="Vector: pCMV-SPORT6"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequencing Center
Center code: BCM-HGSC
Web site: http://www.hgsc.bcm.tmc.edu/cdna/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .554
/organiam="Homo sapiens"
/mol_type="mRNA"
/db xref="taxon:9606"
/clone="IMAGE:3856134"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human and mouse cDNA sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers
                                                                                                                                                           BC008672
BC008672.2 GI:34189698
```

gene

RESULT 14

BC008672

```
organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /gene="SMAP1"
1677. .1682
/gene="SMAP1"
                                                                                                                                                                                gene="SMAP1"
                                                                                                                                                                                                                                              gene="SMAP1"
                                                                                                                                                                                                                                                                                                        gene="SMAP1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.4%;
al Similarity 60.1%;
178; Conservation
                                                                                                                                                                                                                                                                           .1391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          polyA_signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local S
Matches 178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    263
      source
                                                                                                                                                                                                             5'UTR
                                                                                                                                                       gene
                                                                                                                                                                                                                                                                           SCO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                       /product="SMAP1 protein"
/protein_id="AAH08672.1"
/db_xref="cd1:34189699"
/db_xref="LocusID: 50689"
/translation="MATRSCHEKAQKLABCHOLILSKLIREEDNKYCADCEAKGPRWA
SWNIGVFICIRCAGIHRNLGVHISRVKSVNLDOWTAEQIQCMQDMGNTKARLLYEANL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear PRI 20-OCT-2001 protein SMAPIB (SMAPI)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              83 ACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTA 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTATATACAGTCAATGG 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cloning, characterization and chromosome mapping of the human SMAP1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            264 rerrrarrrecarcagarerecregaarrearagaaarerregegerrearararereage 323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Direct Submission
Submitted (28-MG-2001) Unidad de Genetica Medica y Diagnostico
Prenatal, Hospitales Universitarios Virgen del Rocio, Avda. Manuel
Siurot 8/N, Sevilla 41013, Spain
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note="COGS347; Region: GTPase-activating protein that regulates ARFs (ADP-Tibosylation factors), involved in ARF-mediated vesicular transport [Intracellular trafficking and secretion]"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204 ACAAGTACTGCGCCGACTGCGAGCCAAAGGTCCTCGATGGGCTTCCTGGAATATTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CTAAGGAGCTTAATGCCCCGCCATAGAAAGATTCTTGAAGGGCTTCTTAAACATCCAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 144 crcada adcrea aceaeca con contror and contror and contror and contror and contror and control and 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GARATACTARAGCARGACTACTCTATGAGCCARTCTTCCAGAGARCTTTCGAAGA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Marcos, I., Borrego, S., Rodriguez de Cordoba, S., Galan, J.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       farcos,I., Borrego,S., Rodriguez de Cordoba,S., Galan,J.J. and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 9; Length 554;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                   /note="synonyms: FLJ13159, SMAP-1"
/db_xref="LocusID:60682"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             7.4%; Score 107.2; DB 9;
60.1%; Pred. No. 2.1e-18;
iive 0; Mismatches 118;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens stromal membrane-associated In MRNA, complete cds, alternatively spliced
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2223 bp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /db xref="CDD:COG5347'
                                                                                                                                                    codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AY055004.1 GI:16303737
gene="SMAP1"
                                                                                                                       gene="SMAP1"
                                                                                                                                                                                                                                                                                                                                                                                                                        /gene="SMAP1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (bases 1 to 2223)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (bases 1 to 2223)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Unpublished
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Antinolo, G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antinolo, G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AY055004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AY055004
                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 178;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 15
AY055004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
                                                                                      SGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DRIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```

```
FGPMISNPLPATVMPPAQGTPSAPAATLSTVTSGDLDLFTEQTTKSEEVAKKQLSKD
SILSINGTGTTQQQSTPGYMGPTNIPPTSQAPARQGAPBMGYPVPAAPGLIGNVMG
OSPSMVGMPMPROFMGNAQTGVMPLPQNVVGPQGGNVGQMAAPQSKFGLPQAQQPQW
SLSQNNQQMAGMSISSATPTAGFGQPSSTTAGWSGSSSGGTLSTQLMK"
                                                                                                                                                                                                                                                                                                                                                                                                                                     /translation="watrscrekaoklineoholilskilreednkycadceakgprwa
SWNIGVFICIRCAGIHRNLGVHISRVKSVNLDOWTAEQIQCMQDMGNTKARLLYEANL
PENFRRPQTDQAVEFFIRDKYEKKYYDKNAIAITNKEKEKKKEEKKREKEPEKPAKP
LTAEKLQKKDQQLEPKKSTSPKKAAEPTVDLLGLDGPAVAPVTNGNTTVPPLNDDLDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    83 ACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTA 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               216
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACAAGTACTGCGCCGACTGCGAGGCCAAAGGTCCTCGATGGGCTTCCTGGAATATTTGGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           143 TCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     277 rcaaarcagrchacchagaccagragacagcagaacagaracagrgcargcaagarargg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTAAGGAGCTTAAATGCCCGCCATAGAAAGATTCTTGAAGGGCTTCTTAAACATCCAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     crcagaadcrgaaccagcaccagcrcarccrarccaadcrrcrgagggaggagaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          217 igirrarrigcarcagarcigcagarricaragaartriagagircararararcagg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337 gadatactadadecadectactetrandadecedatetrecagagadetriceadea 392
                                                                                                                                                                                                                                                                                                                                                  membrane-associated protein SMAP1B"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 2223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 107.2; DB 9; Length
Pred. No. 2.2e-18;
0; Mismatches 118; Indels
                                                                                                                                                                                                                                                                                      note="isoform 2; alternatively spliced"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Search completed: September 27, 2005, 05:03:34
Job time : 6240 secs
                                                                                                                                                                                                                                                                                                                                                                                protein_id="AAL14715.1"
'db_xref="G1:16303738"
'mol_type="mRNA"
'db_xref="taxon:9606"
'chromosome="6"
                                                                                                                                                                                                                                                                                                                    codon_start=1
'product="stromal
```

```
RESULT 2
US-09-640-211A-1383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 574, App
Sequence 1383, Ap
Sequence 3, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 3, Appli
Sequence 121, App
Sequence 515, App
Sequence 2719, Ap
Sequence 845, App
Sequence 1104, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          660, App
1584, App
155, App
384, App
35, App
11594, App
4726, Ap
4791, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22310, A
3, Appli
                                                                                                                                           (without alignments)
8425.084 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                              1 atgaacgagaaagccaacgt......gaatgttcacaaaacattga 1452
                                                                                                                        02:51:39 ; Search time 282 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence Sequence S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /cgn2_6/ptodata/1/ina/5A_COMB.seq:*
/cgn2_6/ptodata/1/ina/5B_COMB.seq:*
/cgn2_6/ptodata/1/ina/6A_COMB.seq:*
/cgn2_6/ptodata/1/ina/6B_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
/cgn2_6/ptodata/1/ina/PCTUS_COMB.seq:*
GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-313-294A-574

US-09-640-211A-1383

US-09-620-312D-515

US-09-620-312D-515

US-09-621-976-845

US-09-621-976-845

US-09-621-996-312D-1104

US-09-620-312D-1104

US-09-620-312D-155

US-09-640-211A-1584

US-09-620-312D-155

US-09-620-312D-35

US-09-620-312D-35

US-09-620-312D-35

US-09-620-312D-35

US-09-620-312D-36

US-09-620-312D-36

US-09-620-312D-36

US-09-620-312D-36

US-09-620-312D-36

US-09-620-312D-36

US-09-248-796A-4710

US-09-248-796A-4610

US-09-248-796A-4610

US-09-248-796A-4610

US-09-620-312D-804

US-09-620-313D-804

US-09-620-313D-804

US-09-620-333-31

US-09-828-303-3

US-09-828-303-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -09-620-312D-804
-09-513-999C-22310
                                                                                                                                                                                                                                                                                                                                                                                         Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                 1202784 seqs, 818138359 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                  using sw model
                                                                                                                                                                                                                                                                                    IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Issued_Patents_NA:*
                                                                                                                      September 27, 2005,
                                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query
Match Length DB
                                                                                                                                                                                                    US-10-630-518-1
1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..........
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11899.6
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1001.2
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Perfect score:
                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                  Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database
                                                                                                                            е
6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               υ
```

```
28 45.2 3.1 4595 4 US-09-023-905A-9 Sequence 9, Appli 30 42.4 3.0 5330 4 US-09-023-905A-1 Sequence 1. Appli 31 42.4 2.9 54.2 4 US-09-021-905A-1 Sequence 1. Appli 32 41.8 2.9 524 9 US-09-621-976-338 Sequence 338, Appli 32 41.8 2.9 5954 4 US-09-023-905A-6 Sequence 8, Appli 34 41.2 2.8 3456 4 US-09-023-905A-6 Sequence 6, Appli 35 41.2 2.8 3456 4 US-09-023-905A-5 Sequence 5, Appli 36 41.2 2.8 3456 4 US-09-023-905A-5 Sequence 5, Appli 38 38 2.7 3504 4 US-09-023-905A-5 Sequence 15390, Appli 38 38 2.7 1194 4 US-09-034-91243 Sequence 1852, Appli 38 8 2.7 298 4 US-09-110-1539 Sequence 1261, Appli 38 8 2.7 399 4 US-09-110-1391 Sequence 1261, Appli 38 8 2.7 318 4 US-09-110-1539 Sequence 1261, Appli 38 6 2.7 313 4 US-09-110-1261 Sequence 1261, Appli 43 37.2 2.6 8308-708-2194-3 Sequence 22, Appli 56 2.5 1830121 4 US-09-557-884-1 Sequence 21, Appli 56 36.8 2.5 1830121 4 US-09-557-884-1
```

## ALIGNMENTS

```
Sequence 574, Application US/09313294A

Betent No. 6476212

GENERAL INFORMATION:
APPLICANT: Lalgudi, Raghunath V.
APPLICANT: Ito, Laura Y.
APPLICANT: Sherman, Bradley K.
TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN EAR FILE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN EAR CURRENT APPLICATION NUMBER: US/09/313,294A

CURRENT APPLICATION NUMBER: US/09/313,294A

NUMBER: OF SEQ ID NOS: 7600

SOFTWARE: PERL PROGram

SEQ ID NO 574

LENGTH: 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 ccacccredaracaredereceaeaecaaerrecarrrarreaarcaaredaaa 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 dcardacardricriddcarrcaradaadccreddddacarararraadgraadarcre 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       gegeagacrocaagrocaagggrocrogargggaagrgroaargroaarcraagrarera
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGGGAAATGATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGAGTTGGAATTGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   152 GCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGGTTCGATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92 GTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTATCTTTATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 4; Length 270;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13.7%; Score 199.6; DB 4; Length 83.7%; Pred. No. 4.6e-57; ive 0; Mismatches 44; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    // NAME/KEY: misc feature
// OTHER INFORMATION: Incyte ID No. 6476212 700549464H1
US-09-313-294A-574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 ATTTCATCCGTGCAAAATATGAGGACAAGA 270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             332 ATTTTATACGTGCAAAGTATGAAGAGAAGA 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        226; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
-- Tocal Similarity
                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA
ORGANISM: Zea mays
US-09-313-294A-574
```

```
Sequence 121, Application US/09484970B Patent No. 6426186
                                                        7.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 61.0%;
Matches 153; Conservative
                                                      Query Match
Best Local Similarity 60.1
Matches 178; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     319 GTTGGAATTGA 329
  ; LOCATION: (120)..(1442)
US-09-774-528-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-484-970B-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                     g
                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                            유
                                                                                                                                                                                                                                                                                                                                                                    ଚ
                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ਨੇ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                289 TGGGCTAGTGTCAATTTAGGGATATTTATATGCATGCAATGTTCAGGAATCCATAGAAGT 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCGGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTTGGGGTACACATATCGAAGGTCCGATCAGCTACTTTGGACACATGGCTTCCAGAGCAG 408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         169 ATGAACGGGAAGGCCAACGTCTCCAAGGAGCTCAATGCGCACCACAGAAAGATTCTCGAA 228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    229 GGGCTTCTCAAATTGCCTGAGAACAGGGAGTGTGCTGATTGTAAGGCCAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                            ..
0
                                                                                                                                                                                                                                                                                                                                                                                    12.6%; Score 182.4; DB 4; Length 408; 85.0%; Pred. No. 4.4e-51; ive 0; Mismatches 36; Indels 0
        Patent No. 68344 Marian

GENERAL INFORMATION:
APPLICANT: Wood, Marian
APPLICANT: Shenk, Michael A.
APPLICANT: Glenn, Matthew
APPLICANT: Glenn, Matthew
TITLE OF INVENTION: Compositions and Methods for the
TITLE OF INVENTION: Modification of Gene Transcription
FILE REPERENCE: 11000.1021U
CURRENT APPLICATION NUMBER: US/09/640,211A
CURRENT FILING DATE: 2000-08-16
NUMBER OF SEQ ID NOS: 2368
SOFTWARE: FREESEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Drmanac, Radoje T.
TITLE OF INVENTION: No. 6743619el Nucleic Acids and
TITLE OF INVENTION: Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILE REFERENCE: 802
CURRENT APPLICATION NUMBER: US/09/774,528
CURRENT FILING DATE: 2001-01-30
Application US/09640211A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 3, Application US/09774528 Patent No. 6743619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pt_FL_genes Version 2.0
                                                                                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Eucalyptus grandis
US-09-640-211A-1383
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 85.0<sup>†</sup>
Matches 204; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tang, Y. Tom
Zhou, Ping
Goodrich, Ryle
Liu, Chenghua
Asundi, Vinod
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ren, Feiyan
Zhang, Jie
Zhao, Qing A.
Yang, Yonghong
Xue, Aidong J.
Wehrman, Tom
Wang, Jian-Rui
Wang, Dunrui
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 441
SOFTWARE: pt_FL_genes Ver:
SEQ ID NO 3
LENGTH: 2885
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 3
US-09-774-528-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT
```

ò 셤 Š а è 셤 Š 셤

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   83 ACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTTAGGTA 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              328 rcaaarcagrcaaccradaccaaregacagcagaacagaaracagrecarecarecaacararige 387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           170 dererrerrerrecarrecardrecresaarceacadearcresses recaestrecaes 229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199 AAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGGTGCATTTATACAGTCA 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     290 ATGGGAAATGGAAAAGGCAAACCGACTTTATGAAGCCTATCTTCCTGAGACCTTTCGGGGA 349
                                                                                                                                                                                                                                                                                                                                                                                          148 crcada a de construcción d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        143 TCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGGTACACATATCGAAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGGTACACATATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                268 iciriatriccarcagarereciesaarrcarasaarcrissestrararararcases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                203 TTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          79 GAGAACAGAGAATGTGCTGACAAAACAAAAGGTCCAAGATGGGCTAGTGTAATTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            259 ATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA
                                                                                                                                                                                                                                                                     23 CTAAGGAGCTTAAATGCCCGCCATAGAAAGATTCTTGAAGGGCTTCTTAAACATCCAGAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      263 GAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 388 GAAATACTAAAGCAAGACTACTCTATGAAGCCAATCTTCCAGAGAACTTTCGAAGA 443
                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
             Length 2885;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No. 6426186 227709 (1221361CB1)
US-09-484-970B-121
Score 107.2; DB 4; Length
Pred. No. 6.7e-25;
0; Mismatches 118; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 94.2; DB 3; Length 1
Pred. No. 1.1e-20;
0; Mismatches 98; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: Jones, Karen A.
APPLICANT: VOLKmuth, Wayne
APPLICANT: Wolkmuth, Wayne
TITLE OF INVENTION: BONE REMODELING GENES
FILE REFERENCE: PB-0014 US
CURRENT APPLICATION NUMBER: US/09/484,970B
CURRENT PILING DATE: 2000-01-18
NUMBER OF SEQ ID NOS: 172
SEQ ID NO 121
```

```
199 AAGGITCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCA 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           46 ecegaaaegaaaacrecrraaarearrrrraaaegeccecearegecercrresaacarr 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  139 GGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGGTACACATATCG 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              259 ATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCCAAACTATGATAGA 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    106 égrererrekéreterektrektektektékektékekékkatéreséséreekéatatét 165
                                                                          APPLICANT: Duclert, A. APPLICANT: Giordano, J.Y. TITLE OF INVENTION: Expressed Sequence Tags and Encoded Human Proteins. TITLE OF INVENTION: Expressed Sequence Tags and Encoded Human Proteins. Patent No. 6783961
FILE REFERENCE: 59.US2.REG CURRENT APPLICATION NUMBER: US 60/122,487
PRIOR PILING DATE: 2000-02-24
PRIOR PAPLICATION NUMBER: US 60/122,487
PRIOR FILING DATE: 1999-02-26
SOFTWARE: PATENT PRIOR FILING DATE: 1999-02-26
SOFTWARE: PATENT PRIOR PRIOR PRIOR FILING DATE: 1999-02-26
LENGTH: 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               79 GAGAACAGAGAATGTGCTGACAAAACAAAAGGTCCAAGATGGGCTAGTTAATTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 86.2; DB 4; Length 459;
Pred. No. 2.4e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 5.9%; Score 86.2; DB 4; Length 3 Best Local Similarity 59.0%; Pred. No. 1.8e-18; Matches 148; Conservative 0; Mismatches 103; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-61-976-845

Sequence 845

Sequence 8633063

Patent No. 6633063

GENERAL INFORMATION:

APPLICANT: Dumas Milne Edwards, J.B.

APPLICANT: Glordano, J.Y.

TITLE REPRENCE: GENSET.054PR2

CURRENT FILING DATE: 2000-07-21

CURRENT FILING DATE: 2000-07-21

NUMBER OF SEQ ID NOS: 19335

SEQ ID NO 845

FILE REPRENCE: GENER TOWN TOWNER: DATE: 2000-07-21

SEQ ID NO 845
     Patent No. 6783961
GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             5.94;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               319 GTTGGAATTGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   286 CCTCAGATAGA 296
                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; NAME/KEY: CDS
; LOCATION: 52..459
US-09-621-976-845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ) NAME/KEY: CDS
; LOCATION: 67..309
US-09-513-999C-2719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 79 GAGAACAGAGAATGTGCTGACTGCAAAACAAAGGTCCAAGATGGGCTAGTGTTAATTTA 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       116 GATAACAAGTITTGTGCAGAFTGCCAGTCTAAAGGCCCGCGATGGGCCTCTTGGAACATT 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    139 GGIATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCG 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     199 AAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTATACAGTCA 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         236 AGGINAAGICAGINAACCICGACCAGIGGACTCAAGAACAGATICAGIGCAIGCAAGAG 295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 296 Aridegadahigadadegidadacceacrrrangadeccraricrricceagaccrrricegeda 355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     259 ATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6.5%; Score 94.2; DB 4; Length 1976; 61.0%; Pred. No. 1.3e-20; tive 0; Mismatches 98; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Wang, Zhiwei
APPLICANT: Wang, Zhiwei
APPLICANT: Wang, Zhiwei
APPLICANT: John Tilliwei
APPLICANT: John Tilliwei
APPLICANT: John Tilliwei
APPLICANT: John Tilliwei
TITLE OF INVENTION: No. 6569662el Nucleic Acids and
TITLE OF INVENTION: No. 6569662el Nucleic Acids and
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: Polypeptides
TITLE OF INVENTION: POLYPEPTIGE
CURRENT APPLICATION NUMBER: US/09/620,312D
CURRENT FILING DATE: 2000-07-19
PRIOR FILING DATE: 2000-04-25
PRIOR FILING DATE: 2000-04-25
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 1105
SEQ ID NO 515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; Sequence 2719, Application US/09513999C
                                                                                                                                    Sequence 515, Application US/09620312D Patent No. 6569662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 61.01
Matches 153; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                   Wehrman, Tom
Xue, Aidong J.
Yang, Yonghong
Wang, Jian-Rui
Zhou, Ping
350 CCTCAGATAGA 360
                                                                                                                                                                                                                                                                                                                            Ren, Feiyan
Chen, Rui-hong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319 GTTGGAATTGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  356 ccrcagarada 366
                                                                                                                                                                                                                 APPLICANT: Tang, Y. Tom
APPLICANT: Liu, Chenghua
APPLICANT: Asundi, Vinod
APPLICANT: Zhang, Jie
                                                                                                                                                                                                                                                                                                                                                                                Zhao, Qing A.
Wehrman, Tom
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ) NAME/KEY: CDS
; LOCATION: (47)..(1336)
US-09-620-312D-515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ma, Yunging
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 6
US-09-513-999C-2719
```

g

ò

셤 ઠે

```
111 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 226 GTGGAAATGGAAATGGAAAGGCAAACCGACT 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        179 GICTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGC 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          111 Archegégégekkénhartegégénaangréagttaacéregáceagrégaerteaagaaé 170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    239 AGGTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGG 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   171 AGATTCAGTGCATGCAAGAGATGGAAATGGAAAGGCAAACCGACTTTATGAAGCCTATC 230
                                                           166 resaarccacassaarcressesrecacararccasseraaasrcassrraaccresacca 225
                                                                                                                                 225 ATGGCTCCCCGAGCAGGTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTA 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: LOGGES, Michael J.
APPLICANT: Mohamath, Racdoh
APPLICANT: Henderson, Robert A.
APPLICANT: Henderson, Robert A.
APPLICANT: Benson, Darin R.
APPLICANT: Secrist, Heather
TITLE OF INVENTION: COMPOSITIONS AND DIAGNOSIS OF LUNG CANCER
TITLE OF INVENTION: THE THERAPY AND DIAGNOSIS OF LUNG CANCER
FILE REPERENCE: 210121.475C10
CURRENT APPLICATION NUMBER: US/09/854,133
CURRENT PILING DATE: 2001-05-11
NUMBER OF SEQ ID NOS: 735
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
APPLICANT: Walker, Michael G.
APPLICANT: Wolkmuth, Wayne
APPLICANT: VOLKmuth, Wayne
APPLICANT: VOLKmuth, Wayne
APPLICANT: VISINGLEY, Tod M.
FILE REPRENCE: PB-0006-1 CIP
CURRENT APPLICATION NUMBER: US/09/855,323
CURRENT FILING DATE: 2001-05-14
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PERL PROGRAM
SEQ ID NO 4
LENGTH: 1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                5.4%; Score 78.2; DB 4; Length 1261; 60.7%; Pred. No. 2.6e-15;
                                                                                                                                                                                                                                                                         285 CTGGGAAGCAGAGCTACCCCCAAACTATGATAGAGTTGGAATTGA 329
                                                                                                                                                                                                                                                                                                                                           286 rrargaagccrarcrrccrgagaccrrrcggcgaccrcagarga 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             83; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299 TACCCCCAAACTATGATAGAGTTGGAATTGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   231 rrccrgagaccrrrcgggagacrcagaraga 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 660, Application US/09854133
Patent No. 6759508
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 4, Application US/09855323
Patent No. 6602667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; OTHER INFORMATION: 1221361CB1
US-09-855-323-4
165 TGGGATTCACAGGAGTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 60.7
Matches 128; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-854-133-660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-855-323-4
                                                                                                                                 ð
                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCCAAACTATGATAGA 318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              211 ATGGGAAATGGAAAGGCAAACCGACTTTATGAAGCCTATCTTCCTGAGACCTTTCGGCGA 270
                                                                                                                                                                                                                                                                                                                                                                                                                     164
                                                                  79 GAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTA 138
                                                                                                                                                                                                       139 GGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGGTACACATATCG 198
                                                                                                                                                                                                                                                                         91 GGTGTTCATCTGCATTCGATGTGCTGGAATCCACAGAATCTGGGGGGGCACATATCC 150
                                                                                                                                                                                                                                                                                                                                               AAGGITCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCA 258
                                                                                                                                    90
                                                                                                                                 31 ececanadesnada crectrana rearranta de ececante es contras de co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Acceraacecceccanceccrcrrccaacarrccrcrrcrrcrrcrrcracarrcrac
Gaps
..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ouery Match 5.7%; Score 82.6; DB 4; Length 1327; Best Local Similarity 60.4%; Pred. No. 8.8e-17; Matches 136; Conservative 0; Mismatches 89; Indels 0
0; Mismatches 103; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Drmanac, Radoje T.
TITLE OF INVENTION: No. 6569662el Nucleic Acids and
TITLE OF INVENTION: Polypeptides
FILE REFERENCE: 784CIP2B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT PEPLICATION NUMBER: US/09/620,312D
CURRENT FILING DATE: 2000-07-19
CURRENT FILING DATE: 2000-07-19
PRIOR PEPLICATION NUMBER: 09/552,317
PRIOR FILING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: 09/488,725
PRIOR FILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequence 1104, Application US/09620312D
Patent No. 6569662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wang, Dunrui
Wang, Zhiwei
John Tillinghast
Matches 148; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wehrman, Tom
Xue, Aidong J.
Yang, Yonghong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Yonghong
Jian-Rui
Ping
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    319 GTTGGAATTGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tang, Y. Tom
Liu, Chenghua
Asundi, Vinod
Zhang, Jie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ren, Feiyan
Chen, Rui-hong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          271 CCTCAGATAGA 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zhao, Qing A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-620-312D-1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ma, Yunqing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhou,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: CDS
LOCATION: (25:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO 1104
                                                                                                                                                                                                                                                                                                                                               199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                      a
                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ŝ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
```

```
RESULT 13
US-09-513-999C-384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144 AACCCGACAACAAGATGTGCTTTGACTGTAATACAAGGAATCCCACATGGGCATCGGTCA 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                194 TATCGAAGGITCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATAC 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               264 tragerrreteadarcretadaceredacretedacrecretadacaerreangereanga 323
                                                                                                                                                                                                                                                                                       283 GGGAACTCCCACTGTGTGGACTGCGAGACCCAGAATCCCAACTGGGCCAGTTTGAACTTG 342
                                                                                                                                                                                                                                                                                                                                        GGTATCTTTATCTGCAATGTTCTGGGATTCACAGGAGTCTCGGGGGTACACATATCG 198
                                                                                                                                                                                                                                                                                                                                                                                      343 geagcecricargreciarceaargericaggarceacceaarcraggaarcraggacceaccrarec 402
                                                                                                                                                                                                                                                                                                                                                                                                                                       199 AAGGITCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTATACAGTCA 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.9 GAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134 ATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                74 ATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTA
                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                       Query Match 5.2%; Score 74.8; DB 4; Length 514; Best Local Similarity 59.3%; Pred. No. 2e-14; Matches 127; Conservative 0; Mismatches 87; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ouery Match 5.0%; Score 72.2; DB 4; Length 435; Best Local Similarity 58.7%; Pred. No. 1.3e-13; Matches 125; Conservative 0; Mismatches 88; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INPORMATION:
APPLICANT: Wood, Marion
APPLICANT: Shenk, Michael A.
APPLICANT: McGrath, Annetce
APPLICANT: Glenn, Matthew
TITLE OF INVENTION: Compositions and Methods for the
TITLE OF INVENTION: Modification of Gene Transcription
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Arceegaaceaecraeceaacaecercreegaae 496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  254 AGTCAATGGGAAATGATAAAGCAAATAGTTACT 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   324 GCTTTGGTGGCAATGGCCGAGGACATACATTCT 356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE REFERENCE: 11000.1021CIU
CURRENT APPLICATION NUMBER: US/09/640,211A
CURRENT FILING DATE: 2000-08-16
NUMBER OF SEQ ID NOS: 2366
SOFTWARE: FASTSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 1584, Application US/09640211A
Patent No. 6833446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-09-620-312D-155
; Sequence 155, Application US/09620312D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Pinus radiata
US-09-640-211A-1584
                 LENGTH: 514
TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-640-211A-1584
                                                                                            US-09-854-133-660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 1584
SEQ ID NO 660
                                                                                                                                                                                                                                                                                                                                          139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         463
                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ð
```

```
1300 retreredetresecresechearécheseresecheareneares 1359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1420 rraactriagacacciggagccagaactriraaagcrialgrgrgagrigggaargai 1479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91 TGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTAGGTATCTTTATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                151 TGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAGGTTCGATCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  211 GCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTATACAGTCAATGGAAATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 384, Application US/09513999C
; Sequence 384, Application US/09513999C
; Patent No. 6783961
; GENERAL INFORMATION:
; APPLICANT: Duclert, A.
; APPLICANT: Glordano, J.Y.
; TILLE OF INVENTION: Expressed Sequence Tags and Encoded Human Proteins.
; Patent No. 6783961
; Patent No. 6783961
; CURRENT APPLICATION NUMBER: US/09/513,999C
; CURRENT PILING DATE: 2000-02-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 68.6; DB 4; Length 6990;
Pred. No. 1.7e-11;
0; Mismatches 84; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Drmanac, Radoje T.
TITLE OF INVENTION: No. 6569662el Nucleic Acids and
TITLE OF INVENTION: Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION TOURSES
CURRENT APPLICATION NUMBER: US/09/620,312D
CURRENT FILING DATE: 2000-07-19
PRIOR APPLICATION NUMBER: 09/552,317
PRIOR PILING DATE: 2000-04-25
PRIOR APPLICATION NUMBER: 09/488,725
PRIOR APPLICATION NUMBER: 09/488,725
PRIOR PILING DATE: 2000-01-21
NUMBER OF SEQ ID NOS: 1105
SOFTWARE: PF_Genes Version 1.0
SEQ ID NO 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1480 GTTATAAATCGAGTTTATGAAGC 1502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          271 AAAGCAAATAGTTACTGGGAAGC 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 58.6%;
Matches 119; Conservative
Tang, Y. Tom
Liu, Chenghua
Agundi, Vinod
Zhang, Jie
Ren, Feiyan
Chen, Rui-hong
Zheo, Oing A.
Addong J.
Yang, Yonghong
Wang, Jian-Rui
Zhou, Ping
Ma, Yunqing
Ma, Yunqing
Ma, Yunqing
Ma, Yunqing
Ma, Yunqing
Ma, Yunqing
Mang, Dinrui
Wang, Zhineii
Wang, Zhineii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; NAME/KEY: CDS
; LOCATION: (61)..(2397)
US-09-620-312D-155
```

```
TYPE: nucleic acid
STRANDEDNESS: single
                                              TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STATE: VA
COUNTRY: USA
ZIP: 22313-0299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-08-232-463-14/c
                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                     FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239 cereriecearicircregaecriegargacriedeccaerreaecreaegaagerrarier 298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         119 eccialecca en contra de la contra dela contra de la contra dela contra de la contra dela contra de la contra del contra della contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139 GGTATCTTTATCTGCATGCATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCG 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       199 AAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAGGTTGCATTTATACAGTCA 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79 GAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATTTTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   179 GGAGTCCTCATGTATTGAATGTTCAGGAATCCACCGCAGTCTTGGCACCCGCCTTTCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 332;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: John Tillinghast
APPLICANT: Drmanac, Radoje T.

TITLE OF INVENTION: No. 6569662el Nucleic Acids and
TITLE OF INVENTION: Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match

4.7%; Score 68.4; DB 4;
Best Local Similarity 57.5%; Pred. No. 2.1e-12;
Matches 123; Conservative 0; Mismatches 91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259 ATGGGAAATGATAAAGCAAATAGTTACTGGGAAG 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             299 ÁTTGGCAÁTGACCTÁGCCÁACAGCATCCGGGAAG 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT APPLICATION WUMBER: US/09/620,312D;
CURRENT FILING DATE: 2000-07-19;
PRIOR FILING DATE: 2000-04-25;
PRIOR FILING DATE: 2000-04-25;
PRIOR PILING DATE: 2000-04-25;
PRIOR PILING DATE: 2000-01-21;
NUMBER OF SEQ ID NOS: 1105;
SOFTWARE: PL-L-Genes Version 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: sig_peptide
| LOCATION: 89..208
| OTHER INFORMATION: score 4.4
| OTHER INFORMATION: seq LNLGVLMCIECSG/IH
US-09-513-999C-384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 35, Application US/09620312D
Patent No. 6569662
PRIOR APPLICATION NUMBER: US 60
PRIOR FILING DATE: 1999-02-26
NUMBER OF SEQ ID NOS: 36681
SOFTWARE: Patent.pm
SEQ ID NO 384
LENGTH: 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Liu, Chenghua Asundi, Vinod Zhang, Jie Ren, Rui-hong Zhao, Oing A. Wehrman, Tom Xue, Aidong J. Yang, Yonghong Wang, Jian-Rui Zho.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Zhou, Ping
Ma, Yunqing
Wang, Dunrui
Wang, Zhiwei
                                                                                                                                                                                                                                          TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                 FEATURE:
NAME/KEY: CDS
LOCATION: 89..331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-09-620-312D-35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

```
958 gecergargracarreagracreagecarecaceaeaecereagegecreaecereaeces 1017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1018 erececrecerreaceredareacredececereacerecresecrerereareacreceare 1077
                                                                                                                                                                                                                                                                       957
                                                                                                                                                                                                                                                                                                                          142 ATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGTCTCGGGGTACACATATCGAAG 201
                                                                                                                                                                                                                                                                                                                                                                                                                                     GITCGAICTGCCACTCTGGACACATGGCTCCCGAGCAGGTTGCATTTATACAGTCAATG 261
                                                                                                                                                                                                                                                                    898 AACAGCTTTTGTATCGACTGCGATGCACCCAATCCAGACTGGGCCAGCCTGAACCTGGGT
                                                                                                                                                                                                                    82 AACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGATGGGCTAGTGTTAATT
                                                                                                     Length 2119;
                                                                                                                                                           91; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COURTER CASALOLOGY

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
ODERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/232,463
FILING DATE:
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/07/935,313
                                                                                                     4.5%; Score 65.4; DB 4;
56.9%; Pred. No. 8.7e-11;
tive 0; Mismatches 91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1078 Gecahrecerresechachererresenen 1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              262 GGAAATGATAAAGCAAATAGTTACTGGGAAG 292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 29,768
REPERENCE/DOCKET NUMBER: 30472/114 IMMU TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE: Foley & Lardner
STREET: 1800 Diagonal Road, Suite 500
CITY: Alexandria
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNION NUMBER: EP 91 114 300.6 FILING DATE: 26-AUG-1991 ATTORNEY/AGENT INFORMATION:
NAME: BENT, Stephen A. REGISTRATION NUMBER: 29,768
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 14, Application US/08232463; Patent No. 5670367; GENERAL INFORMATION:
APPLICANT: DORNER, F. APPLICANT: SCHEIFLINGER, F. APPLICANT: FALKNER, F. APPLICANT: FALKNER, F. G. TITLE OF INVENTION: RECOMBINANT FOW NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSER: FOLEY & Lardner
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (703)836-9300
(703)683-4109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEX: 899149
INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
LENGTH: 7218 base pairs
                                                                                                                                     Best Local Similarity 56.9
Matches 120; Conservative
; NAME/KEY: CDS
; LOCATION: (520)..(1614)
US-09-620-312D-35
```

```
264 AAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTACCCCCAAACTATGATAGAGTTGG 323
                                                                                                                                                            384 GGCTAGATCACCTCCTAGAGTCCAGCAGGAACGGCGGAAATCTGTGGAGAAGTGGGGCC 443
                                                                                                                                                                                                                                                           504 TCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACGAGAATAAATCTTCCCGTGCCTCC 563
                                                                                                                                                                                                                                                                                                                                                              564 CCAAGGACCCAGTCAGGTTATAAAGCCACAGAAAATGGAGTCTGCAGCTACTCCAGT 623
                                                                                    Gaps
                                                                                    ;
0
                                                          Query Match
4.4%; Score 63.4; DB 1; Length 72
Best Local Similarity 4.1%; Pred. No. 1e-09;
Matches 16; Conservative 228; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                              1096 RRRRRRRRRRRRRRRATC 1064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Search completed: September 27, 2005, 06:22:54 Job time : 285 secs
; TOPOLOGY: linear; IMMEDIATE SOURCE: CLONE: pTZgpt-F18 US-08-232-463-14
                                                                                                                                  요
                                                                                                                                                             ઠે
                                                                                                                                                                                   g
                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

Sequence 22038,

Sequence 30303, A Sequence 176512, Sequence 176513, A Sequence 2297, Ap Sequence 92697, A Sequence 1317, Ap Sequence 1317, Ap Sequence 1317, Ap Sequence 1317, Ap Sequence 176518, Sequence 176511, Sequence 17631, Sequence 17633, Ap Sequence 17633, Ap Sequence 17631, Ap Sequence 17631, Ap

Searched:

Database

Result

Sequence:

Title: Perfect

Run on:

Sequence 1037, Ap Sequence 170957, Ap Sequence 43, Appl Sequence 31399, A Sequence 515, App Sequence 515, App

Appl

Sequence 3,

Sequence 39539, A Sequence 52793, A

Sequence Sequence 3

```
DB 19; Length 1452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA APPLICANT: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA APPLICANT: LILLEGREN, Sarah, J. APPLICANT: EKKER, JOSEPH, F. TITLE OF INVENTION: GENETIC CONTROL OF ORGAN ABSCISSION FILE REPERENCE: SALKINS.035.18
CURRENT APPLICATION NUMBER: US 60/264,974
PRIOR APPLICATION NUMBER: US 60/264,974
PRIOR FILING DATE: 2001-01-29
PRIOR FILING DATE: 2001-01-29
PRIOR FILING DATE: 2002-01-22
            US-10-425-114-4099
US-10-425-114-32446
US-10-425-114-30303
US-10-425-114-175512
US-10-425-114-17369
US-10-425-114-17369
US-10-425-115-176513
US-10-425-115-176513
US-10-425-115-176513
US-10-425-115-176513
US-10-637-963-92697
US-10-637-963-92697
US-10-637-963-92697
US-10-637-963-92697
US-10-637-963-92697
US-10-637-963-92697
US-10-637-963-92697
US-10-637-963-92697
                                                                                                                                                                                                                                                            0.85-09-294-093B-1317

0.85-10-425-115-176517

0.85-10-425-115-176518

0.85-10-739-930-3764

0.85-10-739-930-3764

0.85-10-856-499-105977

0.85-10-424-599-105977

0.85-10-425-115-176137

0.85-10-425-115-176137

0.85-10-425-115-176511
                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-424-599-136039
US-10-425-115-87733
US-09-867-550-1487
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-887-553A-1037
US-10-425-115-170957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-120-988-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 1452;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 1, Application US/10630518 Publication No. US20040143872A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: DNA ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                    2180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ... (1452)
NAME/KEY: CDS
LOCATION: (1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-630-518-1
                                                                                                                                                                                                                                                                                                                            213.6
206.6
182.4
155.8
155.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      107.
105.
98.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE
    υ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 1, Appli
Sequence 3, Appli
Sequence 5, Appli
Sequence 108715,
Sequence 10983, A
Sequence 14966, A
Sequence 27747, A
                                                                                                                                  4 ; Search time 3611 Seconds (without alignments) 2688.583 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                      1 atgaacgagaaagccaacgt.....gaatgttcacaaaacattga 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Published Applications NA:*

1: /cgn2_6/ptodata/1/pubpna/USO7_PUBCOMB.seq:*
2: /cgn2_6/ptodata/1/pubpna/USO6_NEW_PUB.seq:*
3: /cgn2_6/ptodata/1/pubpna/USO6_NEW_PUB.seq:*
4:: /cgn2_6/ptodata/1/pubpna/USO6_PUBCOMB.seq:*
5: /cgn2_6/ptodata/1/pubpna/USO9_NEW_PUB.seq:*
6: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
7: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
8: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
9: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
10: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
11: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
12: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
13: /cgn2_6/ptodata/1/pubpna/USO9_PUBCOMB.seq:*
15: /cgn2_6/ptodata/1/pubpna/USO0_PUBCOMB.seq:*
16: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
16: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
16: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
17: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
19: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
10: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
10: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
10: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
10: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
12: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
13: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
14: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
15: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
16: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
17: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
18: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
18: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
18: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
19: /cgn2_6/ptodata/1/pubpna/USOO_PUBCOMB.seq:*
10: /cgn2
                      GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-630-518-1
US-10-630-518-3
US-10-630-518-5
US-10-424-599-108715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-425-114-10983
US-10-767-701-14966
US-10-425-114-27747
                                                                                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                  7400732 seqs, 3343137571 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SUMMARIES
                                                                                                                                    September 27, 2005, 03:06:24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                  sw model
                                                                                                                                                                                                                                                                                          IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                  using
                                                                                                                                                                                                                                                                                                                                                                                                                            Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match Length DB
                                                                                                                                                                                                              US-10-630-518-1
1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1452
1452
1452
2640
1879
2154
1951
                                                                                                nucleic search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1450.4
1450.4
432.6
429.4
348.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1452
                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                      score:
```

1021 1081 1081 1141 1141 1201	1261 ACTCTACAATACCCATCATCCACTCACAATGGGTCAAGGTCAACGGT  1261 ACTCTACAATCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT  1321 ATGACCCCAAACTCAACCGGTAAACCTCAGTCATCATCGGCAACCCAACCAA	Qy         1381 ACACCATCTTCACAATCAGGCAAAGACTTTGATTTCTCTTCATTGATTG	RESULT 2 US-10-630-518-3 ; Sequence 3, Application US/10630518 ; Publication No. US20040143872Al	GENERAL INFORMATION:  APPLICANT: THE SALK INSTITUTE FOR BIOLOGICAL STUDIES  APPLICANT: THE RECENTS OF THE UNIVERSITY OF CALIFORNIA  APPLICANT: LILLGEGEN'S Sarah, J.  APPLICANT: FORES JOSEPH R.	; AFFLICANT: ZANOFSKY, MATTIN, F. ; TITLE OF INVENTION: GENETIC CONTROL OF ORGAN ABSCISSION ; FILE REFERENCE: SALKINS.035C1	; CURRENT APPLICATION NUMBER: US/10/630,518 ; CURRENT FILING DATE: 2003-08-13 ; PRIOR APPLICATION NUMBER: US 60/264,974 ; PRIOR FILING DATE: 2001-01-29	APPLICATION N FILING DATE: 1 OF SEQ ID NO		; FEATURE: ; NAME/KEY: CDS ; LOCATION: (1 .) (1452)	Query Match Query Match Best Local Similarity 99.9%; Pred. No. 0; Marches 1451; Conservative 0; Mismatches 1; Indels 0; Gaps 0;	AAAGCCAACGTCTTAAGGAGCTTAATGCCCGCATAGAAGATTCTTGAA 60	61 GGGCTTCTTAAACATCCAGGAACAGGAATGTGCTGACTGCAAACAAA
Best Local Similarity 100.0%; Pred. No. 0; Mismatches 0; Gaps 0; Matches 1452; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Arches 1452; Conservative 0; Mismatches 0; Indels 0; Gaps 0; Indels 1452; Conservative 0; Mismatches 0; Mismatche	181 CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240	301 CCCCCAAACTATGATAGAGTTGGAATTTTATATACGTGCAAAGTATGAAGAAG 360	421 AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTCTGTGTAAAT 480 		AGAAA	601 ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCAGTAAATGTTGCACCAGCA 660	661 TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT 720 	721 TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG 780 	781 GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAATTGTCACAGCCAAGCCT 840 	841 GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA 900 	901 CCTARITIAACAACTCAACAAGCACAAAAGAIGIGAAAGGCGAIAICAIGAGCCTGITI 960 	961 GAGAAGACGAATATACTATCGCCTTTGCCATGCAACAGCAACAGGTTGCTATGCTCGCT 1020

ઠ

ઠ g 8

```
1440
                                                                                                                 1380
                                                                                                                                                  1380
                                                                                                                                                                                                                              1440
 1201 ATGCAAAACATGAATATGAACGCAAACATGAACACGCGGCACCACCACCCCCAAGAGAAC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                      GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                       1261 ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                           <u>actrctacaatacccarcarcactrtrctacacaargggrcaagctaarcaagtgaacggr</u>
                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 19; Length 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                      JOSTICA STATEMENT OF STATEMENT 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 1450.4; Pred. No. 0; 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA ORGANISM: Arabidopsis thaliana
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.94;
                                                                                                                                                                                                                                                                     ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                         ACAAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 99.9
Matches 1451, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1)...(594)
US-10-630-518-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 1452
                                                                             1261
                                                                                                                 1321
                                                                                                                                                    1321
                                                                                                                                                                                            1381
                                                                                                                                                                                                                                                                     1441
                                                                                                                                                                                                                                                                                                         1441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                             8
                                                                       8 & 8
                                                                                                                                                                                        8
                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      පු පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8 8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1260
                                                           240
                                                                                                                                    300
                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                  480
                                                                                                                                                                                                                                                                                                                                                                                                                                            540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         960
                       180
                                                                                                 240
                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                               AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                900
                                                                                                                                                                        GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                    CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GCTGAGAGCAGTTCTCCTCCCACCTTCATCTTCTGACTTTGAGGATTTGTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                  AAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                            TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATGGAGTCTGCAGCTACTCCAGTAGAGGGGGGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCTAATTTTAACAACTCAACAAGCACCAAAAGATGTGAAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AATCAAGAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1141 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AIGCAAAACAIGAATAIGAACGCAAACAIGAACACGAGAGACCCGCACAACCGCAAGAGAACC
                                                                                               cressegracacararceaassrrcsarcrsccacrcrssacacacacacaccess
                                                                                                                                      GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                         AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Arccadrordenteraciócagradadadadadadadadadananterrecaceaca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACCTTTGAGGATTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
AAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGCATGACATAGTAGTAGTCTCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    961
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1141
                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1201
                       121
                                                           181
                                                                                                                                      241
                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         901
                                                                                           g
                                                                                                                                                            ద
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                      ò
                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                 ठे
                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       જે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            જે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

ò

ò

ò

ઠે В ઠે . g

6 B

8 & 8

8 8

g

à

8 4 8 4 8 8

ò

```
APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: La Rosa Thomas J
APPLICANT: Show Yihus
APPLICANT: Zhow Yihus
APPLICANT: Cao Yongwei
TITLE OF INVENTION: Soy Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
TITLE OF INVENTION 1078ER: US/10/424,599 .
CURRENT APPLICATION NUMBER: US/10/424,599 .
NUMBER OF SEG ID NOS: 285684
SEQ ID NO 108715
LENGTH: 2640
 :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGGGGGTACATATATCAAAGGTTCGTTCTGCAACCCTGGACACTTGGCTTCCAGAGGAA 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        691
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTGTTTGAGGAGAAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        751
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       575 Agardodrirccaadadardogaarrcaaaaacaccrrcrodarr---rcoodaagaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTGCATTCATTCAATGGGAAACGAGAAAGCAAATTGTTTCTGGGAAGCAGAATTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGGCTTCTTAAACATCCAGAGAACAGAATGTGCTGACTGCAAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GTTGCATTDATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTAATACGTGCAAAGTATGAAGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 692 AAATTIGAGGAAAGGAAAATCCAACCATCAACTGCAATTICTACGGGAAGAATTAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     752 GTTCCTGCTCCTCCACAGCATCTCAGCAGGTAACTCCTATTACCAAACCTCAGCATGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Argaacagcaaggccaacgrrrccaagagcrcaacgccaagcacaagaagaracrggaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAATCTGTGGAGAAGTGGGCCCGGGATATGAGCATGGACATAGTAGTAGTCCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       aerecircacarreacaeaeeecerereaaeaeaeaereerrareceererirereaaaar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 2640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          72;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 432.6; DB 18; Length
Pred. No. 3.2e-122;
0; Mismatches 499; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                        ; OTHER INFORMATION: Clone ID: PAT_MRT3847_69183C.1
US-10-424-599-108715
                                                                                                                              US-10-424-599-108715
; Sequence 108715, Application US/10424599
; Publication No. US20040031072A1
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29.8%;
llarity 61.5%;
Conservative
                                                                 1452
                                  1441 ACAAAACATTGA 1452
                                                               1441 ACAAAACATTGA
                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Glycine max
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              914;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local S:
Matches 914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           215
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
 셤
                              ò
                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1020
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG 1080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTCAAGCTGATCTCCCAGAAACTT 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATGCAAAACATGAATATGAACGCAAACATGAACACGAGACCCGCACAACAAGAGAAC 1260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT 1020
                                                                                                                                                                                                                                                                                                             099
                                                                                                                480
                  360
                                                 420
                                                                                420
                                                                                                                                               480
                                                                                                                                                                                540
                                                                                                                                                                                                                540
                                                                                                                                                                                                                                               900
                                                                                                                                                                                                                                                                                                                                                                                720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                             099
                                                                                                                                                                                                                                                                                                                                                                                                              720
                                                                                                                                                                                                                                                                                                                                                                                                                                               780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               960
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            960
361 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .021 CAGCAGCAACCCTTTACATGGCTGCAGCGAAAGCTGCTGGAGGCACTCCAAACGGCGTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                 TTGTTTGAGGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                               AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAAA
                                                                                                                                                                                                                                                                                                                                 ATGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                    TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTAAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                               AAATCTGTGGAGAGAGTGGGCCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                               ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                             rcagarccrccaaaggregarrrrgcracrgarcrgrrraacargcrarcaarggargar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGGGATATCATGAGCCTGTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATGCTCGCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AATCAACAAGCTATTGCTAATGCTCTTAACGTAGCTTCTGCAAATTGGTCAAACCCCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GGCTACCAGATCCCCGGAATGACTAACCCCGTAGGTGGTGAAGCTGATCTCCAGAAACTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATGCAAAACATGAATATGAACGCAAAACATGAACACGAGACCCGCACAACCGCAAAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTCTACAATACCCATCATCCAGTTTCTACACAATGGGTCAAGCTAATCAAGTGAACGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1021
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1261
                                                                                                                                              421
                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1381
                 301
                                               361
                                                                                                               421
                                                                                                                                                                              481
                                                                                                                                                                                                             481
                                                                                                                                                                                                                                                                                                               601
                                                                                                                                                                                                                                                                                                                                             601
                                                                                                                                                                                                                                                                                                                                                                                199
                                                                                                                                                                                                                                                                                                                                                                                                                661
                                                                                                                                                                                                                                                                                                                                                                                                                                                 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              196
```

g

8 8

6868

ò

8

g

g

ઠે

셤

В

ઠે

셤

ઠે

ઠે

ઠ

ä

72;

120 317 180 377 240

257

9

```
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement FILE REPERBURE: 38-21 (53313) B CURRENT APPLICATION NUMBER: US/10/425,114 CURRENT FILING DATE: 2003-04-28 UNDHERE OF SEQ ID NOS: 73128 SEQ ID NO 10983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACTCCTGCCGATGATAACTCATGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               grrccrgcrccrccaaacacccaaacaagraacrccrarraccaaaccrcaaga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AATGTTGCACCAGCATCAG-----ATCCTCCAAAGGTGGATTTTGCTACTGATCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TTTAACATGCTATCAATGGATGATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGATGGGTTCCAAGAGATGGGAATTCAAAAACACCTTCTGGATT----TCGGGAAGAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181 CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           378 rrececeracarárarcaa a de contra c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GITGCATTTATACAGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCCAAACTATGATAGAGTTGGAATTTGAGAATTTTATACGTGCAAAGTATGAAGAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAATCTGTGGAGAAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  481 TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGGC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       596 - AGAAAATGGAGTCTGCAGTACTACAGTAGAGAGGAAAAC-----AAGCAGTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               795 gagaaagiggaaricagragcaccacaaaccaccaaccaaccaccaacacraaaaaacarca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         rrcaacarerrercrareeareeccccaareaaareecrcreaecacacr-----esr
                                                                                                                                                                                                                                                                                                                                                                                                                 GGACTTCTTAAATTACCAGAGAATAGGGAATGTGCTGAACTGCAAAGCTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGCTTCTTAAACATCCAGAGAACAAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                      Length 1879;
                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                      29.6%; Score 429.4; DB 18;
llarity 61.4%; Pred. No. 2.5e-121;
Conservative 0; Mismatches 501;
                                                                                                                                                                                                                                        OTHER INFORMATION: Clone ID: 700994349_FLI US-10-425-114-10983
                                                                                                                                                                                                        max
                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 912; Conserv
                                                                                                                                                                                TYPE: DNA
ORGANISM: Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    915
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         696
                                                                                                                                                                                                                                                                                                                                                                                                                                        198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                          FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1347
                                                                                                                                                                                                                                                                                                                                   1045
                                                                                                                                                                                                                                                                                                                                                                                                                    1105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1165
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CAGTCATCATCCGCAACCCAACCAAGAGCACCACCATCTTCACAATCAGGCAAAGAC 1407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cacrcaccaccacacacacacacacacaca-----cricacacacacaagaa 1615
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCGAAAGCTGCTGGAGGCACTCCAAACGGCGTGAATCAACAAGCTATTGCTAATGCTCTT 1107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1286 GCTAAATCTTCTGGTGGGGATCCTA-----GGTATCCTGCTAGCATACAACAACCTAGA 1339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AACGIAGCIICIGCAAAIIGGICAAACCCCGGCGGCIACCAGAICCCCGGAAIGACIAAC 1167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATCTGAAAATGATATCATGAGCCTCTTTGAGAAGGGCAATATGGTGTCTCCATTTTCT 1225
                                                                                                                    969
                                                                                                                                                              931
                                                                                                                                                                                                    756
                                                                                                                                                                                                                                              985
                                                                                                                                                                                                                                                                                         816
                                                                                                                                                                                                                                                                                                                                                                           875
                                                                                                                                                                                                                                                                                                                                                                                                                                                              930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   990
                                                                         871
                                                                                                                                                                                                                                                                                                                    GAGAAGACTAGTCCCCTGAAAGCAGCTGATAGTACTCCAGGTTCTGCATCTGGAATTGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATCTTTTCAAAGATTTACATCCTGTGACACCAAGTTTGACTCCAGAAAAACCACAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1226 ATGCATCAACAGCAGCTTGCCATGCTAGCACAGCAACAGTCTCTTCTAATGGCTTCTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCCGTAGGTGGTCAAGCTGATCTCCAGAAACTTATGCAAAACATGAATATGAACGCAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1445 AGGAACATGACCCCAGCACATTTTGCAGGGAGTTCTGTTCAATATCCACCATCCAGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GATGIGAAAGGGGATATCATGAGCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATGCATCAGCAACAGGTTGCTATGCTCGCTCAGCAGCAAGCCCTTTACATGG----CTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1340 cccaangricciarccaagriggccagcracrggciarrcaarrccaarccaggr---aarg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1228 ATGAACACGAGACCCGCAACACCGCAAGAGAACACTCTACAATACCCATCATCCAGTTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACACAATGGGTCAAGCTAATCAAGTGAACGGTATGACCCCAAACTCAACCGTAAACCT
                                                                           CCTCCAAAGGTGGATTTTGCTACTGATCTG
                                                                                                                                            TITAACATGCTATCAATGGATGATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGAT
                                                                                                                                                                                                                                                                                           ACTCCTGCCGATGATAACTCATGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----CITTGAGGATTTGTTTAAGGACACCCTAATTTAACAACTCAACAGCACCAAAA
                                   AAGCAGTA
                                                                                                                                                                                                                                                 -----GGT
                                                                                                                                                                                                                                                                                                                                                                           GAGAAAATTGTCACAGCCAAGCCTGAGAGCAGTTCTCCTCCAGCTTCATCTTGA-
                                                                                                                                                                                                                                 TTTGATTTCTCTTCTTGATGGATGTTCACAAACATTGA 1452
                                   - AGADAD TGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 10983, Application US/10425114
Publication No. US20040034888A1
GENERAL INFORMATION:
APPLICANT: Liu, Jingdong
APPLICANT: Zhou, Yihua
APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Cao, Yongwei
                                                                                                                        AATGTTGCACCAGCATCAGAT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 5
US-10-425-114-10983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1348 (
                                                                                                                                                                                                                                                                                                                                                                                                                          1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1048
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1616
                                                                              812
                                                                                                                                                                872
                                                                                                                                                                                                                                                   932
                                                                                                                                                                                                                                                                                             757
                                                                                                                                                                                                                                                                                                                                        986
                                                                                                                                                                                                                                                                                                                                                                              817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          931
                                                                                                                        646
                                                                                                                                                                                                        697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            991
                                                                       셤
                                                                                                                                                       셤
                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ሯ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    용
                                     ઠે
                                                                                                                    ઠે
                                                                                                                                                                                                        ጵ
                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

360

557

300 497

437

614 480 674 540 595 794 645 854 969 914 756 816

```
g
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                     ò
                                        g
                                                         ò
                                                                               셤
                                                                                                       ò
                                                                                                                            엄
                                                                                                                                           ∂
                                                                                                                                                                     셤
                                                                                                                                                                                             ò
                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1148
                                                                                                                                                                                                                                                                                                        1287
                                                                                                                                                                                                                                                                                                                           1487
                                                                                                                                                                                                                                                                                                                                                 1347
                                                                                                                                                                                                                                                                                                                                                                      1547
                                                                                                                                                  1209 ATGCATCAACAGCAGCTTGCCATGCTAGCACAGCAACAGTCTCTTCTAATGGCTTCTGCA 1268
                                                                                                                                                                                                                   AACGTAGCTTCTGCAAATTGGTCAAACCCCGGCGGCTACCAGATCCCCGGAATGACTAAC 1167
                                                                                                                                                                                                                                       1323 CCCAATGTTCCTATCCAAAGTTGGCCAGCTACTGGCTATTCAATTCCTGGAGT---AATG 1379
                                                                                                                                                                                                                                                             CCCGTAGGTGAAGCTGATCTCCCAGAAACTTATGCAAAACATGAATATGAACGCAAAC 1227
                    GAGAAGACTAGTCCCCTGAAAGCAGCTGATAGTACTCCAGGTTCTGCATCTGGAATTGAG 1088
                                                                                                          1149 GATGTGAAAATGATATCATGAGCCTCTTTGAGAAGGGCAATATGGTGTCTCCATTTTCT 1208
                                                                                                                                                                                             1269 GCTAAATCTTCTGGTGGGGATCCTA----GGTATCCTGCTAGCATACAACAACTAGA 1322
                                                                                                                                                                                                                                                                                                                                                                                           1348 CAGTCATCCACCAACCCAACCAACAAGCACCACCATCTTCACAATCAGGCAAAGAC 1407
                                                                                                                                                                                                                                                                                                                                                                                                                 ------CTTCACAGTCTGCGAAGGAT 1598
                                                                                    990
  GAGAAAATTGTCACAGGCCAAGCCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGAC 876
                                                          1089 GATCTTTCAAAGATTTACATCCTGTGACACCAAGTTTGACTCCAGAAAAACCACAGAAA
                                                                                    GATGTGAAAGGCGATATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCC
                                                                                                                                                                                                                                                                          GCGAAAGCTGCTGCAGCGCTCCAAACGGCGTGAATCAACAAGCTATTGCTAATGCTCTT
                                                                                                                                                                                                                                                                                                        1228 ATGAACACGAGACCCGCACAACCGCAAGAGAACACTCTACAATACCCATCATCCAGTTTC
                                                                                                                                                                                                                                                                                                                                                TACACAATGGGTCAAGCTAATCAAGTGAACGGTATGACCCCAAACTCAACCGGTAAACCT
                                                                                                                                                                                                                                                                                                                                                                      -----TITGAGGATITIGITITAAGGACACCTAATITTAACAACTCAACAGCACCAAAA
                                                                                                                               ATGCATCAGCAACAGGTTGCTATGCTCGCTCAGCAGCAAGCCCTTTACATGG----CTGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 348.6; DB 19; Length 2154;
Pred. No. 2.8e-96;
0; Mismatches 394; Indels 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                     | TITGATITICICITICATGATGAATGTTCACAAACATTGA 1452
                                                                                                                                                                                                                                                                                                                                                                                                                                                         rargaritririccricritaacacagggaargrirrargaacagrga 1643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; OTHER INFORMATION: Clone ID: SORBI-28MAY03-CLUS849_1
US-10-767-701-14966
                                                                                                                                                                                                                                                                                                                                                                                                                1548 cagicaggacrecrecagrercarcraca-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24.0%;
60.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA ORGANISM: Sorghum bicolor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 2154
                                          877
                                                                                                                                                                        1048
                                                                                                                                                                                                                   1108
                                                                                                                                                                                                                                                              1168
                                                                                                                                                                                                                                                                                                                                                                                                                                      1408
                                                                                                                                                                                                                                                                                                                                                                                                                                                            1599
 817
                                                                                    931
                                                                                                                               991
                                                                                                                                                                                                                                                                                                                                                   1288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PEATURE:
ò
                  Б
                                        ઠે
                                                         а
                                                                                ઠે
                                                                                                    셤
                                                                                                                             ò
                                                                                                                                            g
                                                                                                                                                                      Ś
                                                                                                                                                                                         셤
                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                            욧. 뭐
                                                                                                                                                                                                                                                                                                  ઠ
                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                      જ
                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
```

```
1018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1078
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 949 ATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTT 1008
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        948
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                           310
                                                                                                                                                                                                                                                                                           490
                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                 550
                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          911 gégecegéricérakagicgárrargéraccgaréritrakaratarrarékargga 970
311 AGTCTTCTCGGCTTCCTGAGAATAGAGAATGTGCGGACTGCAAGGCGTCCTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATGAGITITGITTGAGAAGICCAATAIGGIATCGCCITTICGCIGCCCATCAACAGCAGCIG
                                                                                                                                                         TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCTATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                              CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                           CTGGGGGTGCACATATCTAAGGTAAGATCTGCAACCCTGGATACATGGCTGCCAGAGCAA
                                                                                                                                                                                                                                                                                                                                     GTTGCATTTATACAGTCAATGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                 GTTGCATTTATTCAATCAATGGGAAACGAAAAGCAAATAGCTATTGGGAAGCAGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                         611 AGATGGGTACCGAGGAATGGAACATCACGACCTACCTCCGGTGTTCGAGATGAGAAGACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccacadaaaarcrccrgccaaadrrgaggcaacacccccraaagrrgagaagccarcagtr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   971 ACAACAGAGAGAGTCAGAGTCATCTTCAAAT------GATGATAATGCCTGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACCATTTGAGGATTTTAAGGACACA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCAGAAAGCAAGACCC----AGTCAACATCCGGAATAGAAGACCTATTTAAAAGACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccagciciorcalaracorcaldorocagoretroccaloralardocalaratoro
                                                                     GGGCTTCTTAAACATCCAGAGAACAGAATGTGCTGACTGCAAAAACAAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                             CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGATGGGTTTCTAGAGGGAAAAAGGCTAGATCACCTCCTAGAGTCGAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   caacagereresceracionanascascicarcaracanerererererererereres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TIGITIGAGGAGGGAAAACTATICCAGCATCTAGAACAAGAAATAATGTIGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         731 AACCGTGTTACAGCTCTTCCGAGCAAAGTTGCACCTGTAGCTTCAAGGATACCCTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GCATCACCTCAGCCCCCAAAGGTAGAACCACCAGTTCCTAAGGTGGTTTCACCTCCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601 ATGGAGTCTGCAGCTACTCCAGTAGAGGGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCTAATTTAACAACTCAACAAGCACC-----AAAAGATGTGAAAGGCGATATC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCTATGCTCGCTCAGCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   degrimaigneickádakácherrenakáderiderernakáderi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , 199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1019
                                                                                                                                                                                                     371
                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                   491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1009
                              251
                                                                        61
                                                                                                                                                         121
                                                                                                                                                                                                                                                                                             431
                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               901
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            841
```

9

1 ATGAACGAGAAAGGCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA

Matches 645; Conservative

ð

1086

897

945

```
Sequence 176514, Application US/10425115

Publication No. US20040214272A1

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: La Rosa, Thomas J.

APPLICANT: Zhou, Yihua

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Number: US/10/425,115

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 369326

SEQ ID NO 176514
                                                                                                                                                                                                                                                                    1140
                                                                                                                                                                                                                                                                                                                                                                                   1005
                                                                                                                                                                                                                                                                                                                                                                                                                       1260
                                                                                                            979 GGAACAACAGAGAAAGAGTCAGCGTCA-----TCTTCAAACGACGATAATGGC 1026
                                                                                                                                                                                                                                                                                                                                             1141 TCACCAGCTGTGCCATTATCCTCAGCTCCTGTTTCCCAAGTAAACGCTAAGAATGAT 1200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GTIGCATITATACAGICAATGGGAAATGATAAAGCAAATAGITACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccaccadaadccaagacccag-----rcracarcragaarggaagacrrarrraaagac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       387 dercricracecearcercadaaradadaarececadacrecaagreaagecereda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               447 rececaagrereaarcraegrarerriararecareacarerresecarrearasec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGGCCAAG
                                                                                                                                                                                                                                                                                                                                                                                   946 ATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCCATGCATCAGCAACAG
                                                                                                                                                                                                                                                                                                                                                                                                                     1201 Arcargagrirginisasaasiccaarargaarcaccriricgcigcccarcaacag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                            GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA
                                                                                                                                                                                        1027 researescriccasicrecacaaccastaccrastroasasaaaaaarrcreccaaa
                                                                                                                                                                                                                              CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTAAAGGAC
                                                                                                                                                                                                                                                                                                        898 ACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGC------GAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           GITGCIATGCTCGCTCAGCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 crescercarercrescascascarerrerarisecrereraascre 1312
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23.4%; Score 340; DB 20; Length 2299;
llarity 61.0%; Pred. No. 1.4e-93;
Conservative 0; Mismatches 385; IndelB 33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , OTHER INFORMATION: Clone ID: MRT4577_92573C.1
US-10-425-115-176514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity
Matches 654; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 8
US-10-425-115-176514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 2299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1006
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                          919
                                                                                                                                                                                                                                                                        1087
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                718
                                                                                                                                                                                                                                    838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                            ò
                                                                                                              셤
                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                        엄
                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 상. 점
US-10-425-114-27747

Sequence 27747, Application US/10425114

Sequence 27747, Application No. US2004003488A1

Sequence 27747, Application No. US2004003488A1

Sequence 27747, Application No. US2004003488A1

Sequence 27747, Applicant Show, Standard No. US2014

APPLICANT: Zhow, Yihua

APPLICANT: Soreen, Serven E

APPLICANT: Tabaska, Jack E

APPLICANT: Tabaska, Jack E

APPLICANT: Tabaska, Jack E

APPLICANT: No. No. Standard No. USE Thereof for Plant Improvement

TITLE OF INVENTION: Plants and USES Thereof for Plant Improvement

FILE REFERENCE: 38-21(53313)B

CURRENT APPLICATION NUMBER: US/10/425,114

CURRENT PILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 73128

SEQ ID NO 27747

LENGTH 10-7747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       738
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAGAATAAA-TCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             caedcarcaccricaecccceaaegragaacaccagriccaaaggreerrraccriccr 858
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGTCACAGAAATCCCCCGCCAAAGTTGATGCAACACCGCCTAAAGTTGAGAAGCCATCG 918
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            619 AGATGGGTACCAAGGAATGGAACATCAAAATCTTCGTCCAGTGTTCGAGATGAGAAGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           479 ATTIGITIGAGGAGAGGAAACTATICCAGCATCTAGAACAAGAAATAAIGTIGCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GGTCTTCTACGGCATCCTGAGAATAGGGAATGCGCAGACTGCAAGTCAAAGGGTCCTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ccrccraacracearaeeerreeaaraeaearricarccerecaaaarareaeeaeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AACCGTGCTTCACCAGCTCTTCCGAGCAAGTTGCACATGCAGCTTCAAGGATATCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGT -- AGTCCTGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ATGAACGAGAAAAGCCAACGTCTTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 1951;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 23.4%; Score 340; DB 18; Length 1
Best Local Similarity 61.0%; Pred. No. 1.2e-93;
Matches 654; Conservative 0; Mismatches 385; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               , OTHER INFORMATION: Clone ID: LIB4739-018-FS_FLI
US-10-425-114-27747
                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    559
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
```

ઠ

ઠે

ò

ઠે

ઠે

446

ŝ

33;

Length 2011;

229 120 289 180

9

349

240

360 529 420 589 649 538 709 597 769 657 829 717 889 777

ð g 8 셤 Š g ò a Š g

```
TGGGCAAGTGTGAATCTAGGGATCTTATATGCATGATGATGTTCTGGCATTCATAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                  creseserecacararcraassraasarcreccacceresaracarescreccasascaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GTTGCATTTATTCAATCAATGGGAAACGAAAAGCAAATAGCTATTGGGAAGCAGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGAGAATAAA-TCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    casscarcaccrcaasccraaascacaccaaaccrccaaascarcaaascrcarccr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CAGTCACAGAAATCCCCCCCCAAAGTTGATGCAACACCGCCTAAAGTTGAGAAGCCATCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGAACAACAGAGAAAGAGTCAGCTTCA-----TCTTCAAACGACGATAATGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAAAATTGTCACAGCCAAG
                                                                                                                                                                                                                                                                                                                                     ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ccrccraacracearagegriegaaragagaarrircarccerecaaaarargaggacaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGATGGGTACCAAGGAATGGAACATCAAAATCTTCGTCCAGTGTTCGAGATGAGAAGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421 AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGT--AGTCCTGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATTIGITIGAGGAGGAAAACTATICCAGCATCTAGAACAAGAAATAATGTIGCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AACCGTGCTTCGCCAGCTCTTCCGAGCAAGTTGCACATGCAGCATATCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598 AAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                drracaccaccrecraaadrrdarrandecacrearcrerrraacardrercaardaar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           recentescriccastriccasaccastriccastricasasaaaaatrictscoaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTAAAGGAC
                                                                                                                                                                                                           Score 338.4; DB 18; Length
Pred. No. 3.9e-93;
0; Mismatches 386; Indels
                                                                                   ; FEATURE:
; OTHER INFORMATION: Clone ID: 700349043_FLI
US-10-425-114-4099
                                                                                                                                                                                                           Query Match 23.3%;
Best Local Similarity 60.9%;
Matches 653; Conservative
                         TYPE: DNA
ORGANISM: Zea mays
2011
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 390
                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     838
LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       S S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
US-10-425-114-4099
US-10-425-114-4099
i Sequence 4099, Application US/10425114
j Sequence 4099, Application US/10425114
j Publication No. US20040034888A1
j GENERAL INFORMATION:
j APPLICANT: Libou, Yihua
j APPLICANT: Edou, Yihua
j APPLICANT: Cao, Yongwei
j APPLICANT: Cao, Yongwei
j APPLICANT: Cao, Yongwei
j APPLICANT: Cao, Yongwei
j TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
j TITLE OF INVENTION: Nucleic Acid Molecules Thereof for Plant Improvement
j TITLE OF INVENTION: UNCLeic Acid Molecules Associated With
j TITLE OF INVENTION: Whoteleic Acid Molecules Associated With
j TITLE OF INVENTION: Nucleic Acid Molecules Associated With
j TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
j CURRENT PILING DATE: 2003-04-28
j NUMBER OF SEQ ID NOS: 73128
j SEQ ID NO 4099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        With
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATCATGAGTTTGTTTGAGAAGTCCAATATGGTATCACCTTTCGCTGCCCATCAACAGGGG 1328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .095 TGGGATGGCTTCCAGTCTGCACAACCAGTACCTAGTTCAGAGAAAAAAGATTCTGCCAAA 1154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1209 reaccadererecearrarecreaderecagererireceaagraageeraagaardar 1268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GGAACAACAGAGAAAGAGTCAGCGTCA------TCTTCAAACGACGATAATGGC 1094
                                                                                                                       686
                                                                                                                                                                                 420
                                                                                                                                                                                                                                           746
                                                                                                                                                                                                                                                                                                     478
                                                                                                                                                                                                                                                                                                                                                                  806
                                                                                                                                                                                                                                                                                                                                                                                                                               538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              657
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      945
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA 777
GTTGCATTTATTCAATGGGAAACGAAAAGCAAATAGCTATTGGGAAGCAGAGCTG 626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTITITITICAGGAGGAAAACTATICCAGCATCTAGAACAAGAAATAATGTTGCTGCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AACCGTGCTTCACCAGCTCTTCCGAGCAAGTTGCACATGCAGCTTCAAGGATATCCTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cagicalicalculoresciones de la contra dela contra de la contra de la contra de la contra de la contra del la contra del
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAAATGGAGTCTGCAGCTACTCCAGTAGAGGGGAGAAACAAGCAGTAAATGTTGCACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cagrcacadanarccccccccandricargcancaccccccanandricangangccard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TGGGCTGCCTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGC-------GAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ATCATGAGCCTGTTTGAGAGGAGGAATATAGTATCGCCTTTTGCCATGCATCAGCAGG
                                                          CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                ccrccractaccaraccarrecarracacaracacaarrircarcccrecaaararcaccaac
                                                                                                                                                                                 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                        687 AGATGGGTACCAAGGAATGGAACATCAAAATCTTCGTCCAGTGTTCGAGATGAGAAGAGC
                                                                                                                                                                                                                                                                                                        AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGT--AGTCCTGTAA
                                                                                                                                                                                                                                                                                                                                                                  747 caagagtotocogotadioctaataggagtiogacatogtoatagatottoatritgagcaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGAGAATAAA - TCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTTAAAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGGCGCTCATGTCTCAGCAGCAGCTCTTCTAATGGCTGCTCTCAAAGCTG 1380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GITGCTATGCTCGCTCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1047
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1329
                                                      301
                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    867
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           778
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       946
```

엄 ò 성 음

ઠે

유 δ g ò 셤 g

ద ठ g ઠે

ઠે

986

g ò

898 ACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGC-----

945

---GAT

841

901

777

961

837

```
Sequence 22038, Application US/10425114

Sequence 22038, Application US/10425114

Publication No. US20040034888A1

GENERAL INFORMATION:

APPLICANT: Liu, Jingdong

APPLICANT: Chou, Yihua

APPLICANT: Screen, Steven E

APPLICANT: Cao, Yongwei

TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With

TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement

FILE REFERENCE: 38-21(53313)B

CURRENT APPLICATION NUMBER: US/10/425,114

CURRENT FILING DATE: 2003-04-28

NUMBER OF SEQ ID NOS: 73128

SEQ ID NO 22038
                                                                                                                                                                                                                                                                                                                                          962 ggaacaacaacaaaaagrcaccccca-----Tcrrcaaacaacaaraarggc 1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTTGCCATGCATCAGCAACAG 1005
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1010 researescriccasicrescaaccasriccrastreasasaaaaaarrereeaaaaaaaaaaaa 1069
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1124 rcaccagcrereccarrarcercacerceacerrireccaagraacecraagaardar 1183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccagcagaaagcaagacccag----rcracarcragaarggaagacrrarrraaagac 1123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77 ATGAACGAGAAGGCGTCCGTCTCCAAGGAGCTCAACGCCAAGAGAAGATATTGGAA 136
598 AAAATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAAAAAAGCAGTAAATGTTGCACCA 657
                                                                                                  782 caggearcaccicagececaaggragaacacecaaaggragaaggragarcacec
                                                                                                                                                                                                                                                                                                      718 GATTCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCA
                                                                                                                                                                                842 CAGTCACAGAAATCCCCCCCCAAAGTTGATGCAACACCGCCTAAAGTTGAGAAGCCATCG
                                                                                                                                                                                                                        GCATCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGAT
                                                                                                                                                                                                                                              778 TGGGCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  898 ACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGC------GAT
                                                          CGAGAATAAA-TCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCTGCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGACTTTTGAGGATTTTGAGGAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1006 GITGCIATGCTCGCTCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 23.2%; Score 336.6; DB 18; Length 1709; Best Local Similarity 58.9%; Pred. No. 1.3e-92; Matches 626; Conservative 0; Mismatches 419; Indels 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; OTHER INFORMATION: Clone ID: LIB3356-022-F10_FLI US-10-425-114-22038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 11
US-10-425-114-22038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1070
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       946
                                                               539
                                                                                                                                                                                                                           658
                                                                                                                                                                                                                                                                   902
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                              8 8 8
                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                             8
                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Kovalic, David K.
APPLICANT: Screen, Steven E
APPLICANT: Screen, Steven E
APPLICANT: Jack E
APPLICANT: Tabaska, Jack E
APPLICANT: Tabaska, Jack E
TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPERENCE: 38-21(53313) B
CURRENT APPLICATION NUMBER: US/10/425,114
CURRENT APPLICATION NUMBER: 2003-04-28
NUMBER OF SEQ ID NOS: 73128
                                              ATCATGAGCCTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAG 1005
                                                                                    1112 ATCATGAGTTTGTTTTGAGAAGTCCAATATGGTATCACCTTTCGCTGCCCATCAACAGCAG 1171
        1052 TCACCAGCTGTGCCATTATCCTCAGCTCCAGCTGTTTCCCAAGTAAACGCTAAGAATGAT 1111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACTGCAAAACAAAAGGTCCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCCCCAAACTATGATAGAGTTGGAAATTGAGAATTTTATACGTGCAAAGTATGAAGAAGAAG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         adariegéraccaa ega argaa carcaa arrerrereca egrérres agas esta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CAAGAGTCTCCGGCTAGTGCTAATAGGAGTGGACATGGTCATAGATCTTCATTTGAGCAA 721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               479 ATTTGTTTGAGGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAA 538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TGGGCAAGTGTGAATCTAGGTATCTTATATATGCATGACATGTTCTGGCATTCATAGAAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               242 ATGAACGAAAAGGCGTCCCTCTCCAAGGAGCTCAACGCCAAGCACAAGAAGATATTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421 AAATCTGTGGAGAGGGGGCCGGGATATGAGCATGGACATAGTAGT--AGTCCTGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                          1006 GITGCTATGCTCGCTCAGCAGCAAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                                                   1172 CTGGCGCTCATGTCTCAGCAGCAAGCTCTTAATGGCTGCTCTCAAAGCTG 1223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               33;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2022,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 338.4; DB 18; Length: Pred. No. 3.9e-93; 0; Mismatches 386; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PEATURE:
COTHER INFORMATION: Clone ID: UC-ZMFLB73346C08_FLIUS-10-425-114-32446
                                                                                                                                                                                                                                                                     Sequence 32446, Application US/10425114
Publication No. US20040034888A1
GENERAL INFORMATION:
APPLICANT: Liu, Jingdong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 23.3%;
Best Local Similarity 60.9%;
Matches 653; Conservative
                                                                                                                                                                                                                                                                                                                                                     Zhou, Yihua
Kovalic, David K.
Screen, Steven E
Tabaska, Jack E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
ORGANISM: Zea mays
                                                                                                                                                                                                                               RESULT 10
US-10-425-114-32446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 32446
LENGTH: 2022
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                542
                                              946
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
        셤
                                        ઠે
                                                                                q
                                                                                                                          ò
                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

ઠે

ò

```
TYPE: DNA
ORGANISM: Zea mays
INFORMATION
                                                                                                                                                                                                      US-10-425-114-30303
                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  49
                                                                                                                                                                                                                                                                                                                                      503
                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                               569
                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                          329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        509
                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                   FEATURE:
                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                 ਨੇ
                                                                                                                                                                                                                                                                                                                                  음
                                                                                                                                                                                                                                                                                                                                                          à
                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                      심
                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        955 CTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATG 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1025 TTGTTTGAGAAGTCCAATATGGCATCACCATTCGCTGTCCAACAGCAGCAGCTGGTTT 1084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   965 Grercarrarcercagerecagererrinecaagraaargeaagaargarareargaga 1024
                    196
                                         180
                                                               256
                                                                                   240
                                                                                                         316
                                                                                                                                                  376
                                                                                                                                                                       360
                                                                                                                                                                                             436
                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                        496
                                                                                                                                                                                                                                                            480
                                                                                                                                                                                                                                                                                 556
                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                           616
                                                                                                                                                                                                                                                                                                                                                 900
                                                                                                                                                                                                                                                                                                                                                                     919
                                                                                                                                                                                                                                                                                                                                                                                                                736
                                                                                                                                                                                                                                                                                                                                                                                                                                     TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     844
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              954
                                                                                                                            GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA 300
                                                                                                                                                                                                                                                                                                                                                                                           ATGGAGTCTGCAGCTACTCCAGTAGAGGGGGGAGAAACAAGCAGTAAATGTTGCACCAGCA 660
                                                                                                                                                                                                                                                                                                                                                                                                                                                          796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              904
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         964
                                                    197 TGGGCAAGTGTTAATCTTGGGATCTTTATATGTGACATGTTCTGGAATTCATAGAAGC
                                                                                                 GTTGCATTTATCCAATCAATGGGAAACGAAAAAGCAAATAGCCATTGGGAAGCAGAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  137 GGTCTTCTTCGGCTTCCTGAGAATAGAGAATGTGCAGACTGCAAGTCAAAGGGTCCTCGA
                                                                                   CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                       CCCCCAAACTAGATAGAGTTGGAATTTGAAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                   CCTCCTAACTATGATAGGGTTGGGATAGAGAATTTTATCCGTGCAAAATATGAGGACAAG
                                                                                                                                                                                                                  AGATGGGTTTCTAGAGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                      AGATGGGTACCGAGGAATGGAACATTGCGACCTTCCTCCGGTGTTCGAGATGATAAGAGC
                                                                                                                                                                                                                                                                                 497 CAAGAGTCTCCAGCTAGTGCTAATAGGAGTGGACATCATAGATCTTCATTTGAGCAAAAC
                                                                                                                                                                                                                                                                                                                           ceaecritcaccaecretreceaaccaaacritecacciengraccitcaacataccereteae
                                                                                                                                                                                                                                                                                                                                                541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAGAAA
                                                                                                                                                                                                                                                                                                                                                                     GCATCACCTCAGCCCCCAAAGGTAGAACCACCAGTTCCTAAGGTGGTTTCACCTCCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                ccacaaaaarcrccrccaaagrrcagccaacacccccraaagrrcagaagccarcagrr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GATGGCTTCCAGTCTGCAACCAGTACCTAGCTCGGAGGAAAAAAATCTGCCAAACCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         905 GCAGAAAGCATGACCCAGTCTACACCTGGAATAGAAGACTTATTTAAAGATTCGCCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GACACACCTAATTTAACAACTCAACAAGACCCAAAAGATGTGAAAGGCGATATCATGAGC
                                         AAATCTGTGGAGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTAGTAAAT
                                                                                                                                                                                                                                                                                                       TTGTTTTGAGGAGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATGICTCAGCAGCAGCTCTTCTAATGGCTGCTCTTAAAGCTG 1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CTCGCTCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                         121
                                                                                 181
                                                                                                                                                                                                                                      437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1015
 61
                                                                                                        257
                                                                                                                             241
                                                                                                                                                  317
                                                                                                                                                                                             377
                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                       481
                                                                                                                                                                                                                                                                                                                           557
                                                                                                                                                                                                                                                                                                                                                                      617
                                                                                                                                                                                                                                                                                                                                                                                            601
                                                                                                                                                                                                                                                                                                                                                                                                                 677
                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                           737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               845
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                895
                                                                                                                                                                       301
                                                                                                                                                                                                                   361
               g
                                        6 6 6
                                                                                                    В
                                                                                                                           ò
                                                                                                                                             g
                                                                                                                                                                8
                                                                                                                                                                                        원
                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                   유
                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       පු
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
```

RESULT 12 0-10-425-114-30303 ; Sequence 30303, Application US/10425114 , Publication No. US20040034888A1

APPLICANT: Liu, Jingdong
APPLICANT: Liu, Jingdong
APPLICANT: Liu, Yinaa
APPLICANT: Screen, Steven E
APPLICANT: Screen, Steven E
APPLICANT: Tabaska, Jack E
APPLICANT: Nucleic Acid Molecules and Other Molecules Associated With
TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
FILE REPERENCE: 38-21 (53313) B
CURRENT FILING DATE: 2003-04-28
NUMBER OF SEQ ID NOS: 73128
SEQ ID NO 30303
LENGTH: 1802 ä 208 120 268 180 328 240 300 448 360 508 420 568 480 628 688 900 creseserecacararicraassararacrascraccrasarararicscrescrassara 388 808 868 9 CTCGGGGTACACATATCGAAGTTCGCCACTCTGGACACATGGCTCCCCGAGCAG GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG CAAGAGTCTCCAGCTAGTGCTAATAGGAGTGGACATCATAGATCTTCATTTGAGCAAAAC 589 GCATCACCTCAGCCCCCAAAGGTAGAACCACCAGTTCCTAAGGTGGTTTCACCTCCTCAG 501 ATGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCA CCACAAAAATCTCCTGCCAAAGTTGAGGCAACACCCCCTAAAGTTGAGAAGCCATCAGTT TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT 1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT AGATICGCIACCAGGAATIGGAACATTGCGACCTTCCTCCGGTGTTCGAGATGATAAGAGC 421 AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTACTGTAAAT 181 TIGITITGAGGAGGAAAACTATICCAGCAICTAGAACAAGAAATAATGITGCTGCAACG CGAGCTTCACCAGCTCTTCCGAGCAAAGTTGCACCTGTAGCTTCAAGGATACCCTCTCAG 541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAAAA Length 1802; 18; DB 18; 0; Mismatches 419; OTHER INFORMATION: Clone ID: UC-ZMFLB73008B02\_FL] .3e-92; 23.2%; Score 336.6; 58.9%; Pred. No. 1.36 Best Local Similarity 58.9 Matches 626; Conservative ઠે

```
Sequence 17368, Application US/10425114
; Sequence 17368, Application US/10425114
; Publication No. US20040034888A1
; GENERAL INFORMATION:
; APPLICANT: Liu, Jingdong
; APPLICANT: Zhou, Yihua
; APPLICANT: Screen, Steven E
; APPLICANT: Tabaska, Jack E
; APPLICANT: Tabaska, Jack E
; APPLICANT: Tabaska, Jack E
; TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated With
; TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
; TITLE OF INVENTION: NUMBER: US/10/425,114
; CURRENT APPLICATION NUMBER: US/10/425,114
; CURRENT FILING DATE: 2003-04-28
; NUMBER OF SEQ ID NOS: 73128
; SEQ ID NO 17368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  995 ACAACAGAGAAAAGAGTCAGAGTCATCTCCAAA------CGATGATAATGCCTGG 1042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GEGECATTATCCTCAGCTCCAGCTGTTTCCCAAGTAAATGCAAAGAATGATATCATGAGT 1222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1223 TTGTTTGAGAAGTCCAATATGGCATCACCATTCGCTGTCCAACAGCAGCAGCTGGCGTTT 1282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1043 GATGGCTTCCAGTCTGCACAACCAGTACCTAGCTCGCAGAAAAAATCTGCCAAACA 1102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 955 CTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATG 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          840
                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   894
                     634
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTCCTAACTATGATAGGGTTGGGATAGAGAATTTTATCCGTGCAAAATATGAGGGACAAG
                                                                                      sas adatidddacceaddaarddaacarreedaccrrcercecaretregadardaraadadc
                                                                                                                            AAATCTGTGGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                  ccacaaaaarctcctgccaaagtrgaggcaacacccccraaagtrgagaagccarcagtr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GCTGAGAGCA-----GTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAG
                                                                                                                                                                 695 CAAGAGTCTCCAGCTAGTGCTAATAGGAGTGGACATCATTAGATCTTTGAGCAAAAC
                                                                                                                                                                                                     TTGTTTGAGGAGAGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                              541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGCAAA
                                                                                                                                                                                                                                                                                                                 815 gcarcaccicaccaaaagragaaccaccaaaggracaccaaaggacriccraag
                                                                                                                                                                                                                                                                                                                                                     601 ATGGAGTCTGCAGCTACTCCAGTAGAGAGGGAGAAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                            661 TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GACACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGC
                                                       361 AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                        755 CGAGCTTCACCAGCTCTTCCGAGCAAAGTTGCACCTGTAGCTTCAAGGATACCCTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 721 TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1103 GCAGAAAGCATGACCCAGTCTACACCTGGAATAGAAGACTTATTTAAAGATTCGCCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1015 CTCGCTCAGCAGCCCTTTACATGGCTGCAGCAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1283 ATGICICAGCAGCAGCICTICIAAIGGCIGCICITAAAGCIG 1325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
ORGANISM: Zea mays
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 14
US-10-425-114-17368
                                                                                                                                                                                                         481
                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       841
                                                                                                                                                                                                                                            엄
                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                             셤
                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1036
                                                                                                                                                                                                                                                                                                                                        1156
                                                                                                                                                                                                                                                                                                   CTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATG 1014
                                          916
                                                                              840
                                                                                                                 976
                                                                                                                                                     894
                                                                                                                                                                                                                            954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TGGGCTAGTGTTAATTTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  creseserecacararcraageraagarcrecracerdearacardecreccadadeaa 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GTTGCATTTATCCAATCAATGGGAAACGAAAAGCAAATAGCCATTGGGAAGCAGAGCTG 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAGG 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                 275 ATGAACGAGAAGGCGTCCGTCTCCAAGGAGCTCAACGCCAAGCACCAAGAAGATATTGGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACAACAGAGAAAAGAGTCAGAGTCATCTCCAAA------CGATGATAATGCCTGG
                                                                                                                 gariegerirceagrerecaecaecraecraecreegaegaaaaaarrereecaaaeca
                                                                                                                                                     GCTGAGAGCA----GTTCTCCTCCAGCTTCATCTTCTGACTTTGAGGATTTGTTTAAG
                                                                                                                                                                                        977 GCAGAAAGCATGACCCAGTCTACACCTGGAATAGAAGACTTATTTAAAGATTCGCCAGTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                            GACACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
           TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               tch 23.2%; Score 336.6; DB 20; Length 1928; al Similarity 58.9%; Pred. No. 1.4e-92; 626; Conservative 0; Mismatches 419; Indels 18;
                                                                                                                                                                                                                                                                                                                                                                              CICGCICAGCAGCCCTITACATGCCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                                                                                                                                                     ATGICICAGCAGCAGCACTCTTCTAATGGCTGCTCTTAAAGCTG 1199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMATION: Clone ID: MRT4577_92571C.1
US-10-425-115-176512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Zea mays
FEATURE:
                                                                                                                                                                                                                                                                                                                                                                              1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                515
                                                                                781
                                                                                                                 917
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                395
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                       841
                                                                                                                                                                                                                              895
                                                                                                                                                                                                                                                                                                       955
                                                                                                                                                                                                                                                                                                                                                                                                                   1157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
                                                                            ò
                                                                                                             g
                                                                                                                                                     ò
                                                                                                                                                                                  셤
                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                    셤
                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                              ઠે
```

셤 ઠે

8 셤 ઠે 원 ò 셤 ઠે 셤 8 ద ò 셤 δ 셤 ઠે g ò 음 ઠે 셤 ઠે g ઠે g ò g

```
Sequence 176513, Application US/10425115
Fublication No. US20040214272A1
Fublication No. US20040214272A1
Fublication No. US20040214272A1
GENERAL INPORMATION:
APPLICANT: La Rosa, Thomas J.
APPLICANT: Cao, Yongwal K.
APPLICANT: Cao, Yongwa
1225 TIGTTTGAGAAGTCCAACATGGCATTGGCTGTCCAACAGCAGCAGCTGGCGTT 1284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CAAGAGTCTCCAGCTAGTAGCAGTGGACATCATAGATCTTCGTTTGAGCAAAAC 740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             621 AGATGGGTACCGAGGAATGGAACATTGCGACCTTCCTCCGGTGTTCGAGATGAGAGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   genernenacedanecreadaanadadaanececadacrecaagucaadecrecaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381 resecracionerariches de la reconstancia della de la reconstancia de la reconstancia de la reconstancia d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GTTGCATTTATACAGTCAATGGGAAATGATAAAGCAAATAGTTACTGGGAAGCAGAGCTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           481 TTGTTTGAGGAGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCCCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGACAAAACAAAAGGTCCAAGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421 AAATCTGTGGAGAGAAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 2221;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18;
                                                                                                                                                                                                       1285 ATGTCTCAGCAGCTCTTCTAATGGCTGCTCTTAAAGCTG 1327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                               CTCGCTCAGCAGCCATTTACATGGCTGCAGCGAAAGCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23.0%; Score 333.4; DB 20; 58.7%; Pred. No. 1.5e-91;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches 421;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; OTHER INFORMATION: Clone ID: MRT4577_92572C.1 US-10-425-115-176513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: (1)..(2221)
OTHER INFORMATION: unsure at all n locations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 50., Matches 624; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Zea mays
FEATURE:
                                                                                                                                                                                                                                                                                                                                  RESULT 15
US-10-425-115-176513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: unsure
                                                                                                                                   1015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   501
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                       셤
                                                                                                                               ò
                                                                                                                                                                                               a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                          7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              997 ACAACAGAAAAGAGTCAGAGTCATCTCCAAA-------CGATGATAATGCCTGG 1044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GIGICATIANT CCICAGCICCAGCITIC CCAAGIAAAIGCAAAGAAIGAIATCAIGAGA 1224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              955 CTGTTTGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATG 1014
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    894
                                                                                                                                                                                                                                                                                                                                                                                                               Argaacgagaaggcgrcccrccaaggagcrcaacgccaaggagaagararrggaa 336
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GGGCTTCTTAAACATCCAGAGAACAGAGAATGTGCTGAGACTGCAAAACGACCAAGA 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TGGGCTAGTGTTAATTTAGGTATCTTTATCTGCATGCAATGTTCTGGGATTCACAGGAGT 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     397 TGGGCAAGTGTTAATCTCGGGATCTTTATATGTATGACATGTTCTGGAATTCATAGAAGC 456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          creegegracacararcraaggraagarcrecraccrecaracarecrecaegeda 516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                517 GTTGCATTTATCCAATCAATGGGAAACGAAAAAGCAAATAGCCATTGGGAAGCAGAGCTG 576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421 AAATCTGTGGAGAGAGTGGGCCGGGATATGAGCATGGACATAGTAGTAGTAGTCCTGTAAAT 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAAAA 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      876
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   877 ccacaaaarcrccrgccaaagrrgagggaacacccccraaagrrgagaagccarcagrr 936
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    720
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                937 GCGCCGCCTCCTAAAGTTCATTATGCTACTGATCTCTTTAACATGTTATCAATGGATGCA 996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTCGGGGTACACATATCGAAGGTTCGATCTGCCACTCTGGACACACATGGCTCCCCGAGCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCCCCAAACTATGATAGAGTTGGAATTGAGAATTTTATACGTGCAAAGTATGAAGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 577 CCTCCTAACTATGATAGGGTTGGGATAGAGAATTTCATCCGTGCAAATATGAGGACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             481 TTGTTTGAGGAGGAAAACTATTCCAGCATCTAGAACAAGAAATAATGTTGCTGCAACG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      817 GCATCACCTCAGCCCCCAAAGGTAGAACCACCAGTTCCTAAGGTGGTTTCACCTCCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              781 GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAAATTGTCACAGCCAAGCCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGA-----CTTTGAGGATTTGTTTAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        337 GGTCTTCTTCGGCTTCCTGAGAATAGAGAATGTGCGAGACTGCAAGTCAAAGGGTCCTCGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AGATGGGTTTCTAGAGGGGAAAAGGCTAGATCACCTCCTAGAGTCGAGCAGGAACGGCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   697 caagagrerecageragigeraaraggagiggacarearagarerrearrigageaaaaae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         757 CGTGCTTCACCAGCTCTTCCGAGCAAAGTTGCACATGTAGCTTCAAGGATACCCTCTCAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       601 ATGGAGTCTGCAGCTACTCCAGTAGAGAGGAGAACAAGCAGTAAATGTTGCACCAGCA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        661 TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGATGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GACACACCTAATTTAACAACTCAACAAGCACCAAAAAGATGTGAAAAGGCGATATCATGAGC
                                                                                                                                                                                                                                                                                                                                       1 ATGAACGAGAAAGCCAACGTCTCTAAGGAGCTTAATGCCCGCCATAGAAAGATTCTTGAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     721 TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1105 GCAGAAAGCATGACCCAGTCTACATCTGGAATAGAAGACTTATTTAAAGATTCGCCAGTT
                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                      18;
                                                                                                                                                                     Length 1915;
                                                                                                                                                                 Score 335; DB 18; Length 19
Pred. No. 4.3e-92;
0; Mismatches 420; Indels
                         ; FEATURE:
; OTHER INFORMATION: Clone ID: LIB3069-017-C3_FLI
US-10-425-114-17368
                                                                                                                                                                         23.1%;
58.8%;
                                                                                                                                                                                                                Best Local Similarity 58.8
Matches 625; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               637
                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        841
```

요

ઠે

8 8 8

, ,

```
1089 GCAGAAAGCATGACCCAGTCTACATCTGGAATAGAAGACTTATTTAAAGATTCGCCAGTT 1148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     955 CIGITIGAGAAGACGAATATAGTATCGCCTTTTGCCATGCATCAGCAACAGGTTGCTATG 1014
                                                                                                                                                                                                                                                                       780
                                   541 AGAATAAATCTTCCCGTGCCTCCCCAAGGACCCAGTCAGGTTATAAAGCCACAGAGAA 600
                                                                                                               601 ATGGAGTCTGCAGCTACTCCAGTAGAGAGAGAAACAAGCAGTAAATGTTGCACCAGCA 660
                                                                                                                                                  861 ccacaaaaarcrcrrcccaaagrrgaggcaacacccccraaagrrgagaagccarcagrr 920
                                                                                                                                                                                                                          781 GCTGGCTTTCAGTCTGCTGGAAGTGGTCAAACGGCAGAGAAATTGTCACAGCCAAGCCT 840
741 CGTGCTTCACCAGCTCTTCCGAGCAAAGTTGCACATGTAGCTTCAAGGATACCCTCTCAG 800
                                                                                                                                                                                           661 TCAGATCCTCCAAAGGTGGATTTTGCTACTGATCTGTTTAACATGCTATCAATGGATGAT 720
                                                                                                                                                                                                                                                                                                                                                                                                                                  841 GCTGAGAGCAGTTCTCCTCCAGCTTCATCTTCTGA-----CTTTGAGGATTTGTTTAAG 894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              895 GACACACCTAATTTAACAACTCAACAAGCACCAAAAGATGTGAAAGGCGATATCATGAGC 954
                                                                      801 GCATCACCTCAGGCCCCAAAGGTAGAACCACCAGTTCCTAAGGTGGTTTCACCTCCTCAG
                                                                                                                                                                                                                                                                       TCGACTACAAATACCTCAGAGGCAACTCCTGGCGATACTCCTGCCGATGATAACTCATGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1015 CTCGCTCAGCAGCCCTTTACATGGCTGCAGCGAAAGCTG 1057
                                                                                                                                                                                                                                                                       721
                                   ò
                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                               ઠે
                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                δ
```

Search completed: September 27, 2005, 07:23:19 Job time : 3616 sec8